1984
ANNUAL REPORT
QUEENSLAND HEALTH AND MEDICAL SERVICES

Preventing cancer

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ANNUAL REPORT
QUEENSLAND
HEALTH AND MEDICAL SERVICES

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ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES

1983-1984

The Honourable the Minister for Health

Sir, — I have the honour to submit for your information the Annual Report of the Health and Medical Services Branch of the Department of Health for the year ended 30th June, 1984.

P G. LIVINGSTONE
M.B., B.S.(Qld.), M.R.C.P. (Edin.), D.P.H. (Syd.),
F.R.A.C.M.A., F.R.C.P.
Director-General of Health and Medical Services.

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INTRODUCTORY REMARKS

In my introductory remarks for 1984 I would like to examine briefly some of the health and population changes which have occurred, and consider how these may influence the development of health services. The Queensland Department of Health has become increasingly involved in issues related to prevention.

CHANGES IN HEALTH

The period since the late 1960s has been one of unprecedented improvement in the health of the community. One of the most important measures of change in the health of a population in mortality.

Changes in Mortality

The overall mortality from all causes of death declined by 22 per cent between 1969–72 and 1979–81, after allowance for changes in the age and sex composition of the population. This improvement has been experienced by every age and sex group apart from young adult males. The largest gains have been experienced by girls and middle aged women, the mortality rates for whom halved between 1969 and 1982. Spectacular gains have also been achieved by 0–4 year old children. The smallest gains occurred in the over 65 year old age group, but even here the gains are quite significant and amount to 18–20 per cent.

Changes in the relative importance of major diseases

This improvement in health has occurred because of advances in a wide range of conditions. Since 1969, mortality from ischaemic heart disease, has declined by 26 per cent, cerebrovascular disease by 35 per cent, accidents by 24 per cent, pneumonia by 52 per cent, arteriosclerosis by 45 per cent and hypertension by 53 per cent, as shown in Figure 1.

The only major cause of death which has not declined is malignant neoplasms, which has increased by 7 per cent since 1969–72 and by 15 per cent since 1952–55. In the relatively short space of time since 1969–72, cancer has increased from 15 per cent to 20 per cent of all deaths, reflecting both the decline in other causes of death and an absolute increase in cancer mortality rates.

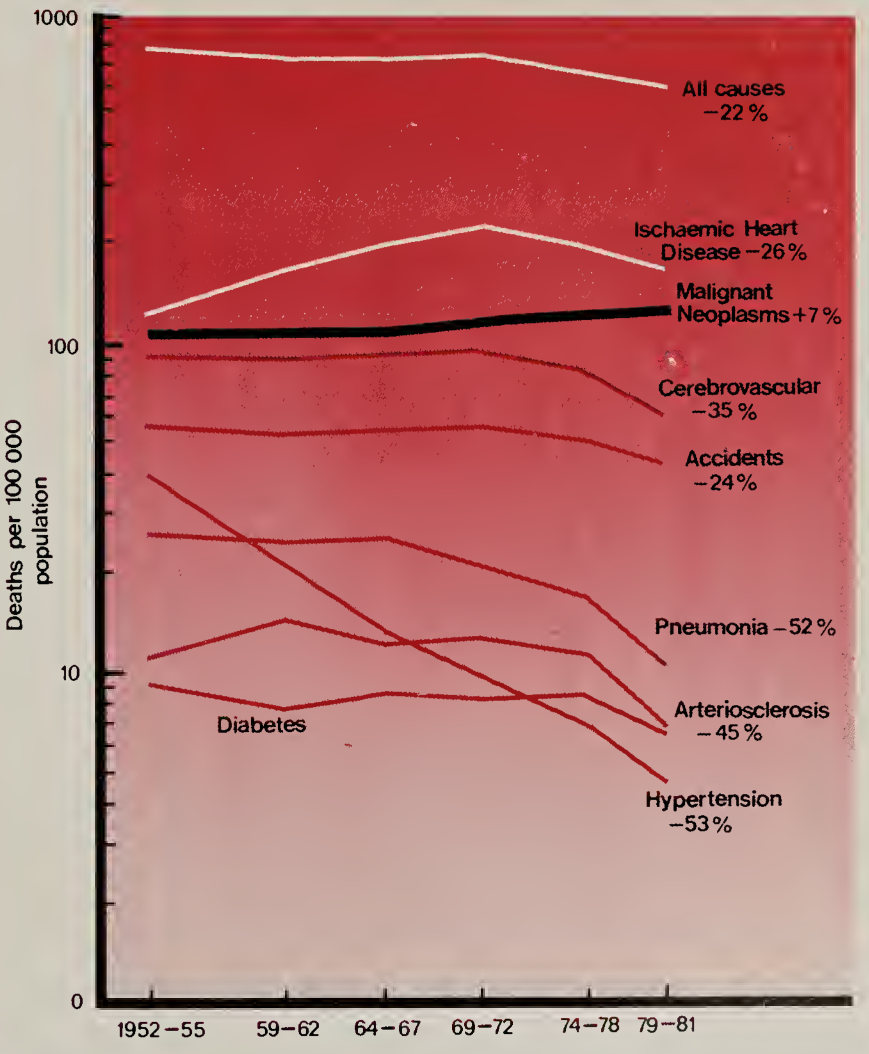

***Figure 1.** Trends in Queensland mortality 1952 to 1981. (Percentage is the change between 1969 to 1972 and 1979 to 1981)*

Principal causes of death

The major causes of death are illustrated in Figure 2.

Queensland mortality is similar to that of the Australian population as a whole. Heart disease remains the most significant cause of death, causing 34 per cent of deaths in Queensland, followed by cancer which causes 20 per cent of deaths. Those two diseases together with cerebrovascular disease account for two-thirds of all deaths.

Changes in other diseases

Other diseases of interest in which changes have occurred include dengue fever, malaria and cholera.

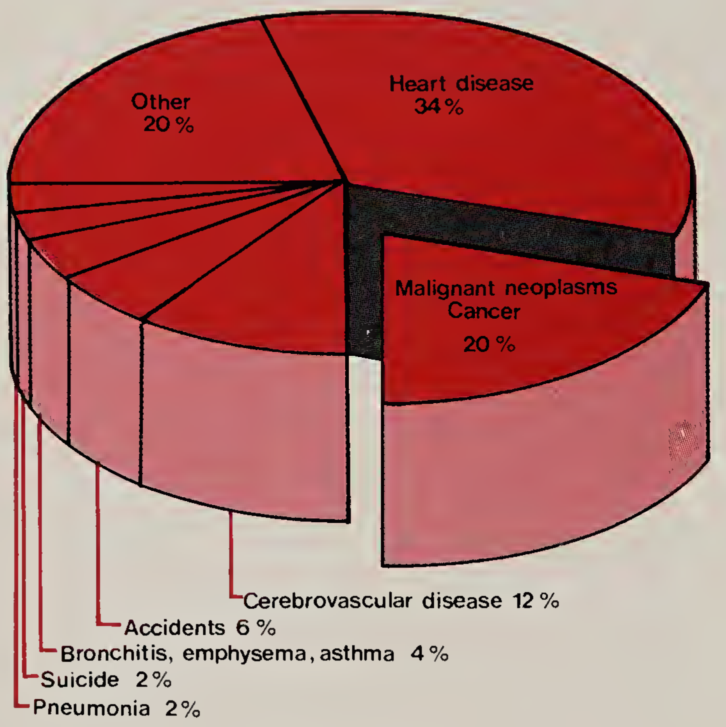

Figure 2. *Principal causes of death: Queensland 1979 to 1981.*

Dengue Fever

It is pleasing that action relevant to the dengue fever outbreak in North Queensland has been effective, in that the outbreak was anticipated by routine surveillance activities which permitted intervention procedures to be instituted immediately. The outbreak subsided well before increasing community immunity itself would have achieved this situation. Local authorities are to be commended therefore on their prompt actions. The Department is increasing its surveillance activities and response mechanisms through the Vector Control Unit in the area of insect-borne diseases, and investigating the effect of increasing northern development on potential health risk factors.

Malaria

An outbreak involving the local transmission of malaria on three Torres St. Islands close to the New Guinea mainland during the year gave some concern. A joint exercise involving departmental officers and officers of the Commonwealth Institute of Health was mounted with good results.

Cholera

An initial three-year surveillance of the presence of cholera organisms in south Queensland river systems has been completed. Further surveillance based on the results is being developed.

The importance of disease surveillance

The exercise with dengue fever, malaria and cholera once again demonstrated that surveillance of the community for levels of diseases is a major weapon in public health, and that laboratories are a significant source of relevant data. It is proposed to inter-relate laboratory data with notifications from medical practitioners, as well as other methods of community surveillance, to increase the information available. The processes are to be consolidated with the appointment of an epidemiologist, the appointee to be involved in communicable disease surveillance, the development and assessment of statistical studies, and in the investigation of outbreaks of disease of special interest.

Another form of surveillance, the monitoring of local and overseas developments in the anticipation of possible disease related problems is demonstrated by the expert committees established within the Department for Acquired Immune Deficiency Syndrome (AIDS) and Hepatitis B.

In order to plan effectively for appropriate, comprehensive health care and for the most effective use of finite health care resources, information regarding changes in the population, such as in age distribution, in fertility patterns or in areas of development, is essential.

CHANGES IN POPULATION

As at 31st December, 1983, Queensland's population stood at 2 488 000 or 16.1 per cent of the Australian population of 15 451 900 (Figure 3). The State's population has been increasing steadily at a faster rate than the national average and, on current information, this trend should continue for the next decade. It is anticipated that Queensland's population will reach 3 million by about 1991 representing approximately 17 per cent of a total Australian population of between 17 and 18 million. During the period 1971 to 1983 the highest average annual rate of growth of 4 per cent was experienced by the 25 to 44 years age group. Growth rates for the elderly, 65–74 and 75 or over, were next highest at 3.2 and 3.4 per cent respectively.

Factors influencing population growth

The elements of growth in a State's population are net migration, from interstate and overseas, and natural increase. In Queensland, the rates of population increase for both net migration and natural increase have been higher than the Australian average for a number of years, as shown in Figure 4.

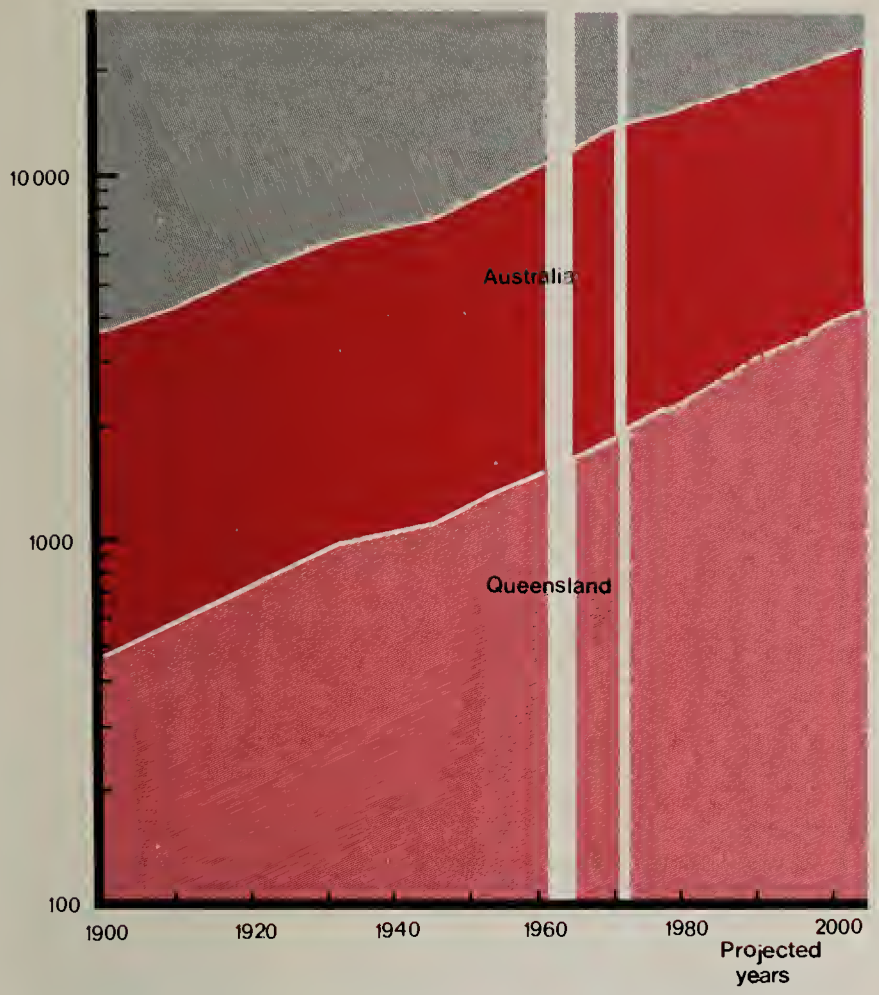

Figure 3. Population of Queensland and Australia 1900 to 2006.

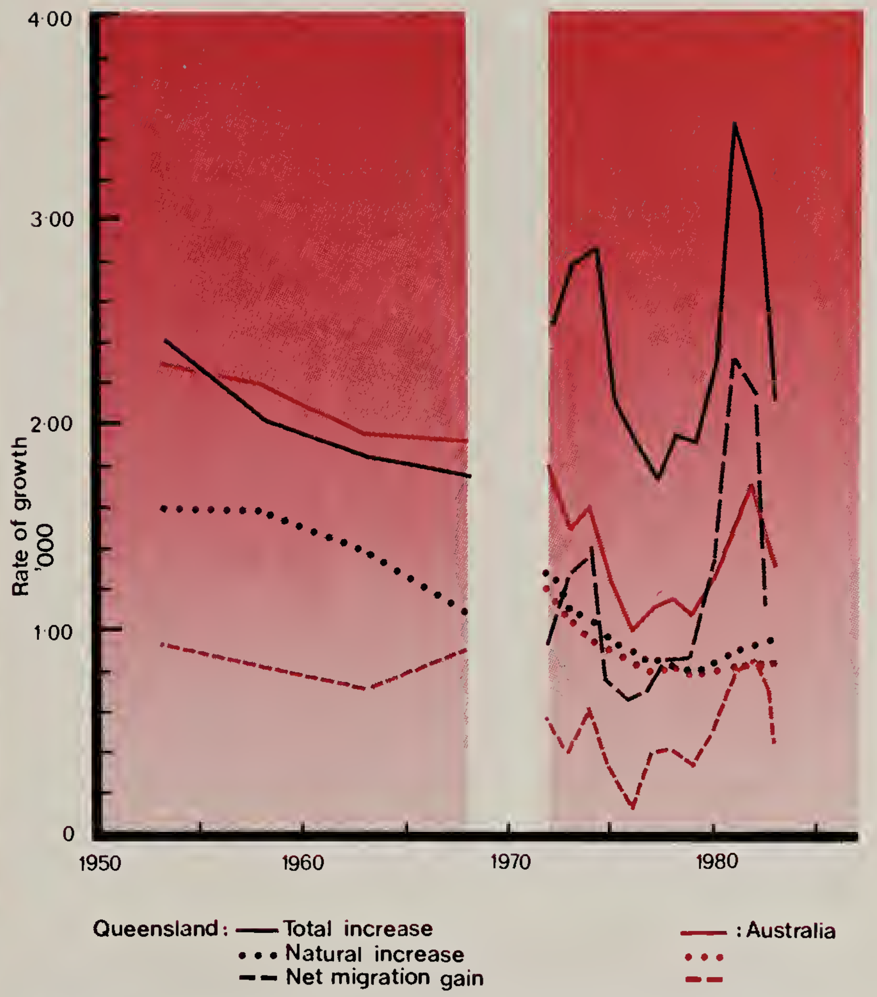

Figure 4. Population increase (natural increase and net migration) for Queensland and Australia 1951 to 1983

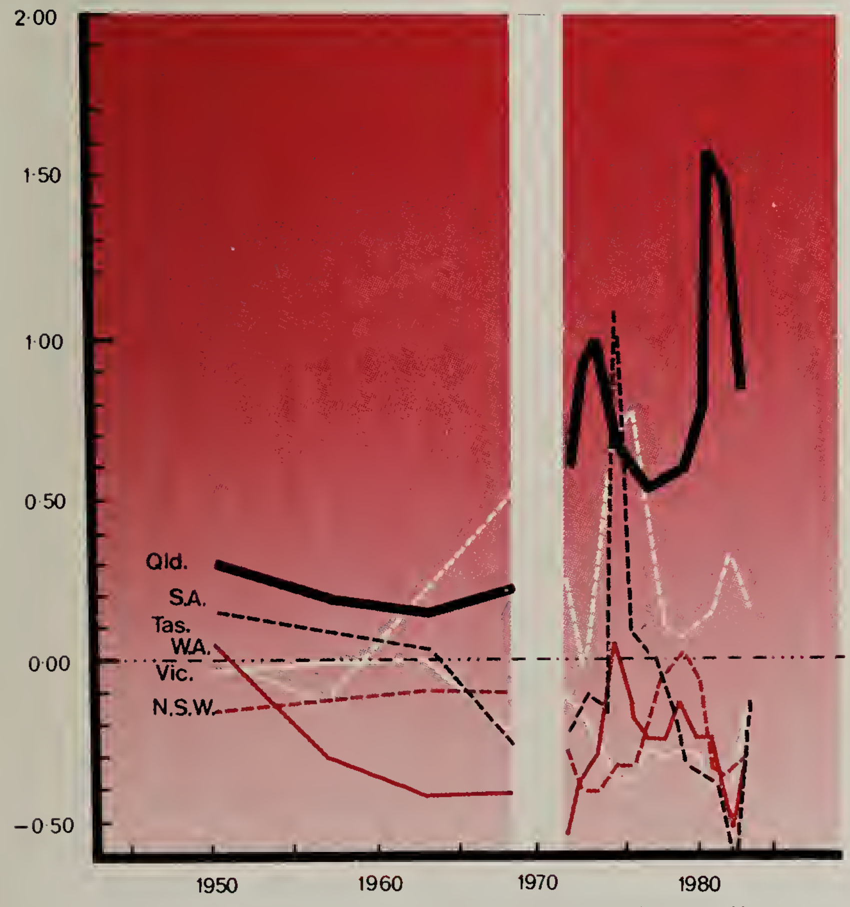

Figure 5a. Rates of net interstate migration: all States, 1947 to 1983.

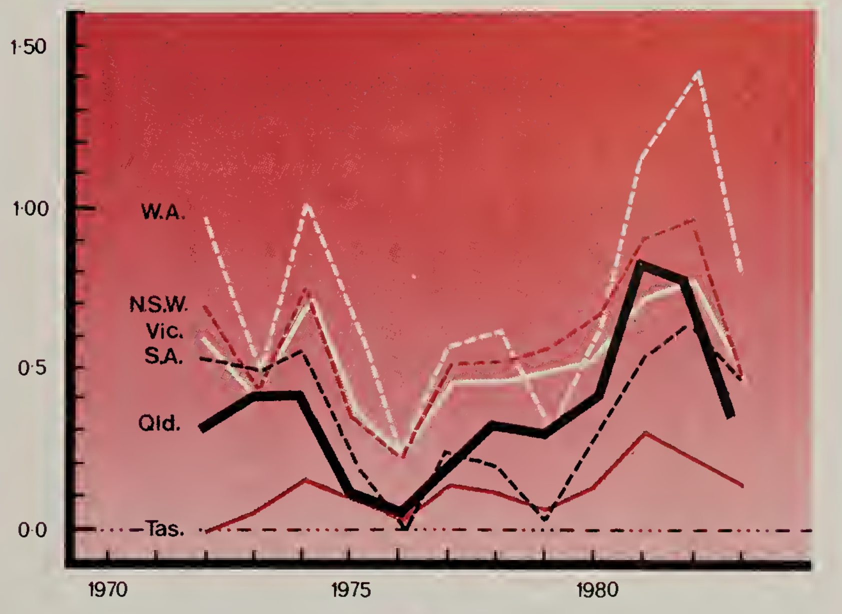

Figure 5b. Rates of net overseas migration all States, 1972 to 1983.

Trends in Migration

Estimates of intercensal net migration, whether from interstate or overseas, are difficult to make for each State, and the Australian Bureau of Statistics reviews its estimates after each population census. There is no doubt that Queensland has, of all the Australian States, gained most consistently from net interstate migration since 1947, the rate of gain rising substantially in the 1970s (see Figure 5a). The only other State to have a comparable experience in net interstate migration was Western Australia. New South Wales and Victoria incurred substantial losses. In contrast, the rate of net overseas migration gain for Queensland since 1972 has been below that of Australia (see Figure 5b). In recent years, however, it has become closer to the national rate.

Natural Increase

Natural increase in a population is defined as the excess of births over deaths in that population. The rates of natural increase for Queensland and Australia alike have been declining as illustrated in Figure 4. This is due to a decline in fertility.

The total fertility rate is the sum of age-specific fertility rates for a year. It is a better measure of fertility than the crude birth rate as it is free from the effect of the age structure of women. Since the Second World War, Queensland fertility patterns have mirrored those of Australia, although at a consistently higher level of fertility (Figure 6). There was a peak in the post-war era declining to a trough at 1980 with a slow increase from there. Recent figures on total births suggest that this slow increase has levelled out.

The crude death rates for both Queensland and Australia in the post-war period have been relatively steady until the 1970s when they started to decline as discussed in the section on changes in mortality and shown in Figure 7.

Since 1947, the first post-war census, the life expectancy at birth of males has increased by 6.1 years from 66.1 to 72.1 years compared with an increase of 8.1 years from 70.6 to 78.7 years for females (Figure 8).

The data on which the discussion of changes in population was based are available in publications of the Australian Bureau of Statistics.

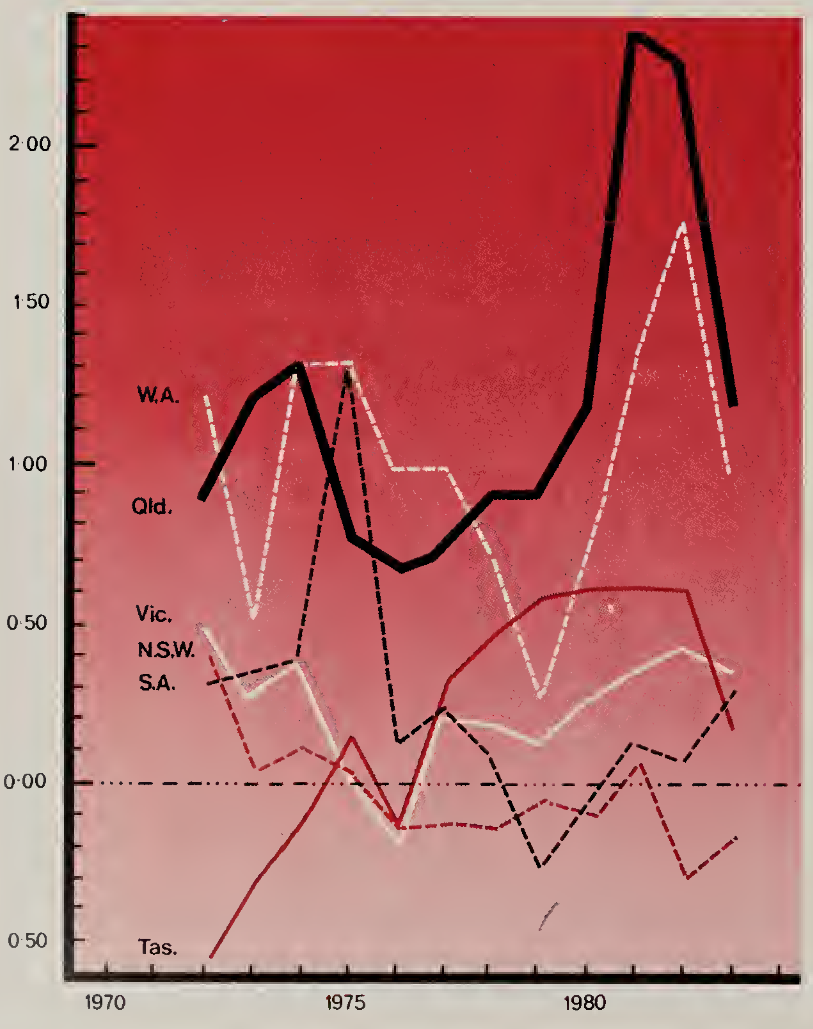

Figure 5c. Rates of net migration: all States, 1972 to 1983.

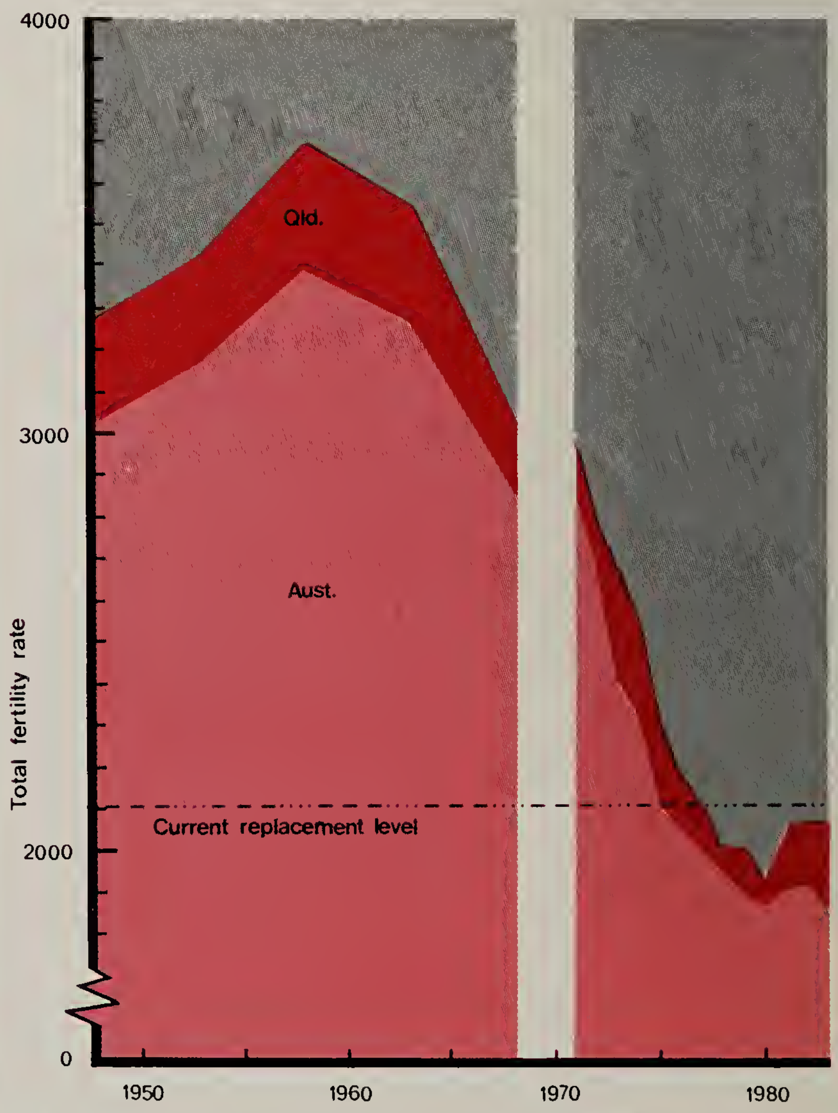

Figure 6. Total fertility rates in Queensland and Australia 1951 to 1983

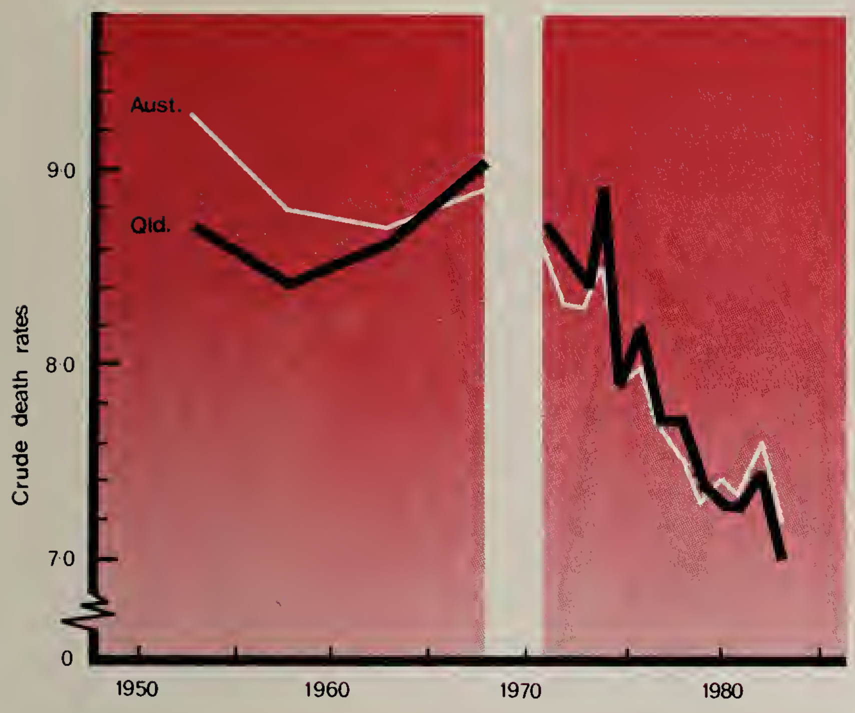

***Figure** 7. Crude death rates in Queensland and Australia, 1951 to 1983*

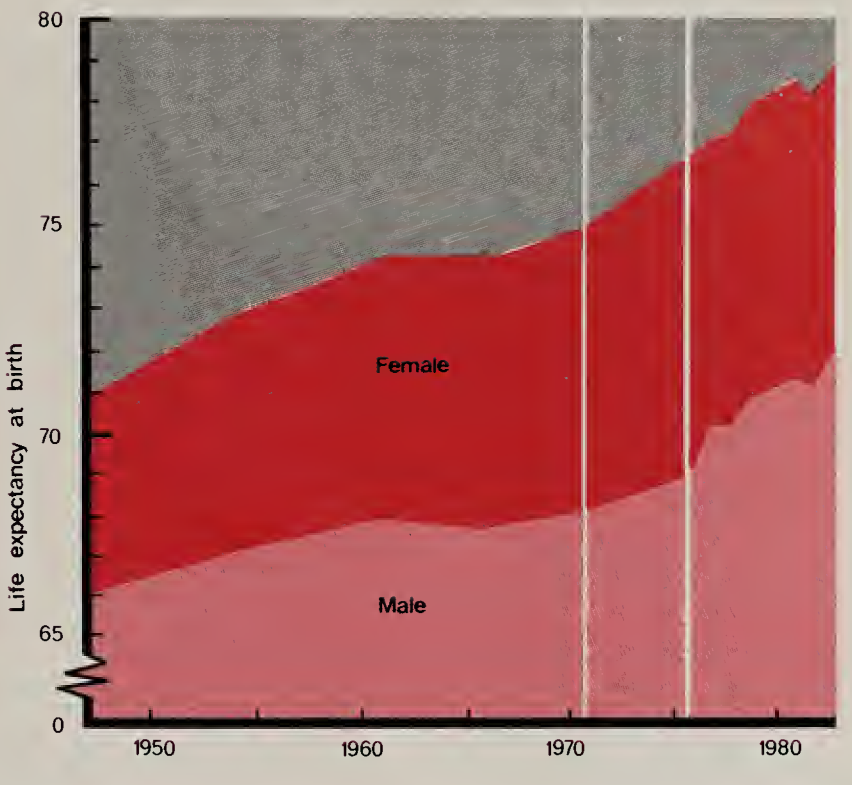

***Figure** 8. Life expectancy at birth for males and females, in Australia, 1947 to 1983*

Population projections

The Premier's Department has released a series of population projections for Queensland for the period 1981 to 2006. These are based on the results of the 1981 Census of Population and Housing and certain assumptions concerning levels of mortality, fertility, interstate and overseas migration. Three series of projections (low, medium and high) were presented relating to the Statistical Divisions of Queensland. All subsequent discussion will concern the medium projections.

The age structure of the Queensland population as projected, would change significantly during the period 1981–2006. The proportion of the population aged 0–14 would decrease from 26.0 per cent in 1981 to 21.8 per cent in 2006, while the proportion aged 65 years or over would increase from 9.7 per cent to 10.8 per cent. Although the percentage change for those 65 or over would be small, it represents a 71 per cent increase in the numbers of males 65 or over from 99 250 to 169 980 and an 82 per cent increase from 127 340 to 231 990 for females 65 or over (Figure 9). In addition, this section of the population is getting older as indicated by the fact that the population 75 or over in 1983 represents 36.0 per cent of the population aged 65 years or over, whereas by 2006 this would have grown to 44.5 per cent.

Of the Statistical Divisions, Moreton is expected to have the largest average annual growth rate of 3.2 per cent over the period 1981–2006, while Brisbane is expected to have the largest absolute increase of 540 000 over the same period (Figure 10).

These figures are consistent with the experience during 1976 to 1981 where tremendous growth was found in both the Gold and Sunshine Coast Statistical Districts; 8.0 per cent and 10.3 per cent annual average growth rates respectively.

Vital statistics

Information on vital statistics, provided in previous reports, is presented in Appendix 1. 1983 data are not yet available for information on causes of deaths registered in Queensland.

ACHIEVEMENTS IN THE PAST YEAR

The preliminary discussion on changes in health patterns indicated the significance of cancer as a cause of morbidity and mortality as well as the possibility that cancer can often be prevented. A new emphasis has therefore been placed on cancer prevention.

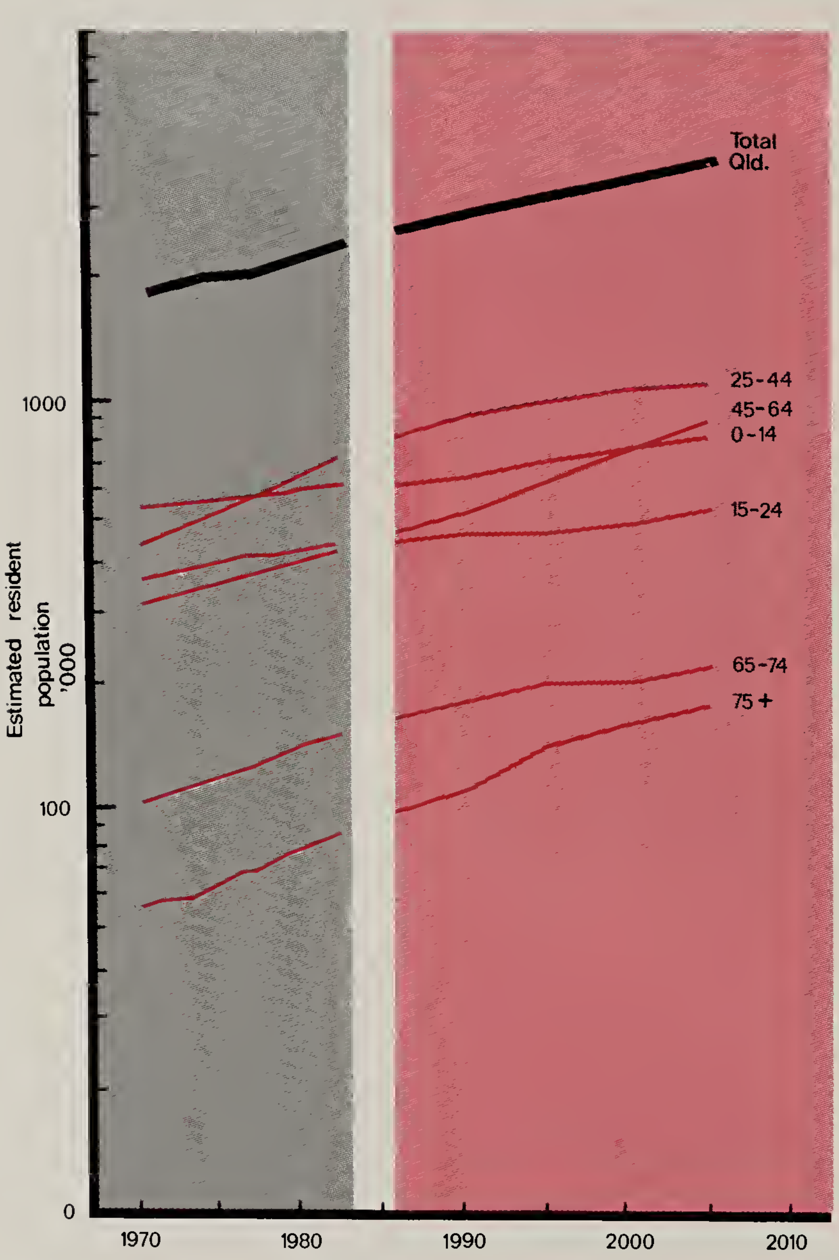

***Figure 9.** Actual (1971 to 1983) and projected (1986 to 2006) populations for Queensland, according to age*

Cancer prevention

The overall increase in cancer mortality is the net effect of a variety of different patterns for individual cancers. While there have been important reductions in cancer mortality due to treatment, for the most part these have occurred in rather uncommon tumors and mortality from the major cancers (breast, colon, rectum and prostate) has not changed significantly during the last 30 years (Figure 11). These four cancers together with respiratory cancer account for half of all cancer deaths. Mortality from a variety of cancers has increased during the 30-year period, including respiratory cancer, reticuloses, brain and nervous system, melanoma, pancreas and urinary tract. The major change has been for respiratory cancer, the mortality for which has tripled in the period. The significance of this change is that had mortality from respiratory cancer remained at the level of 30 years ago total cancer mortality would have declined slightly rather than increasing by 15 per cent.

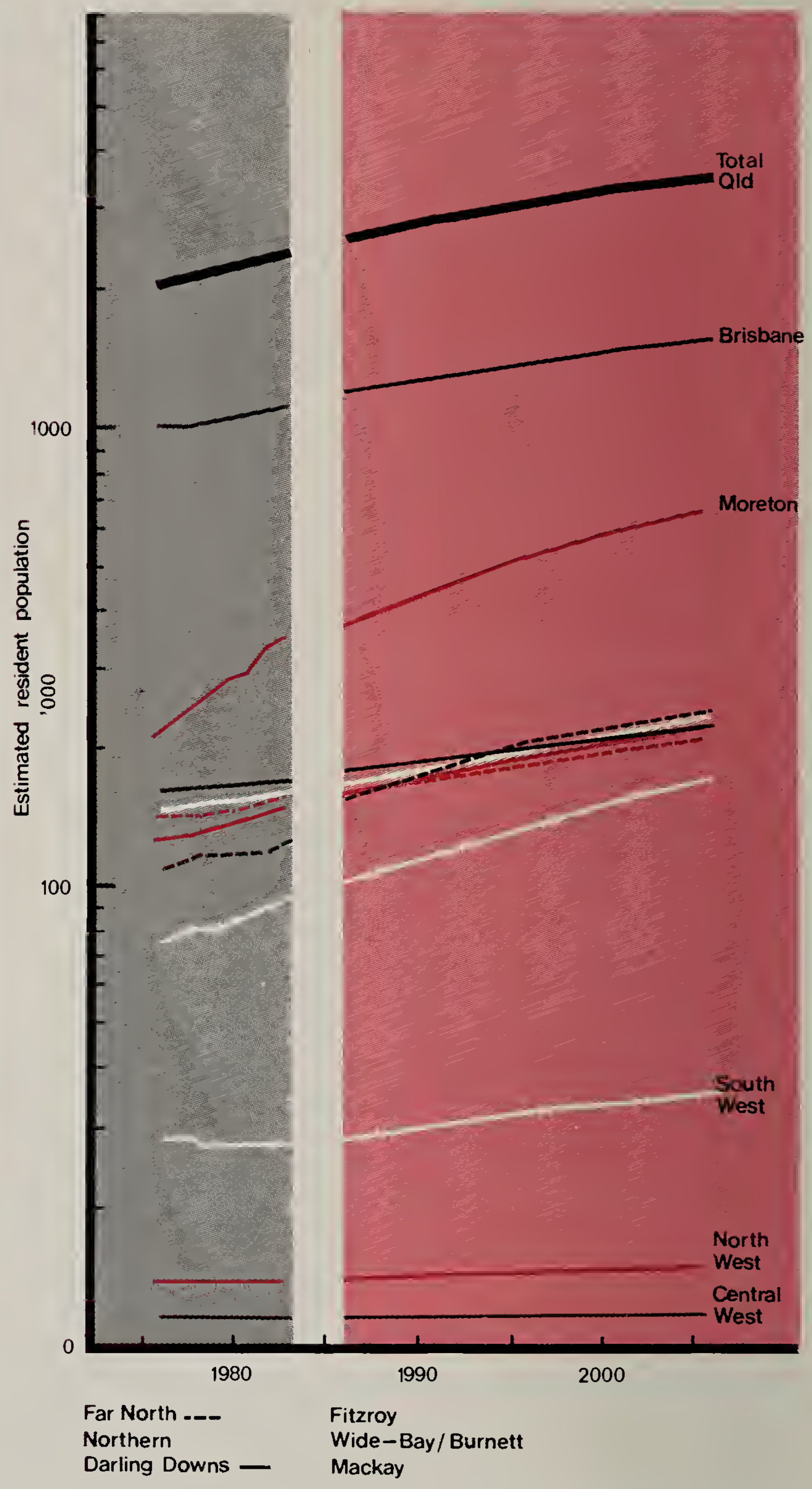

***Figure 10.** Actual (1976 to 1983) and projected (1986 to 2006) populations for statistical divisions in Queensland*

Whether or not cancer mortality continues to rise, level off or decline will, in the light of present knowledge, be determined by prevention as much as any other factor. It has therefore been decided to mount a campaign with the explicit aim of halting the rise in cancer mortality.

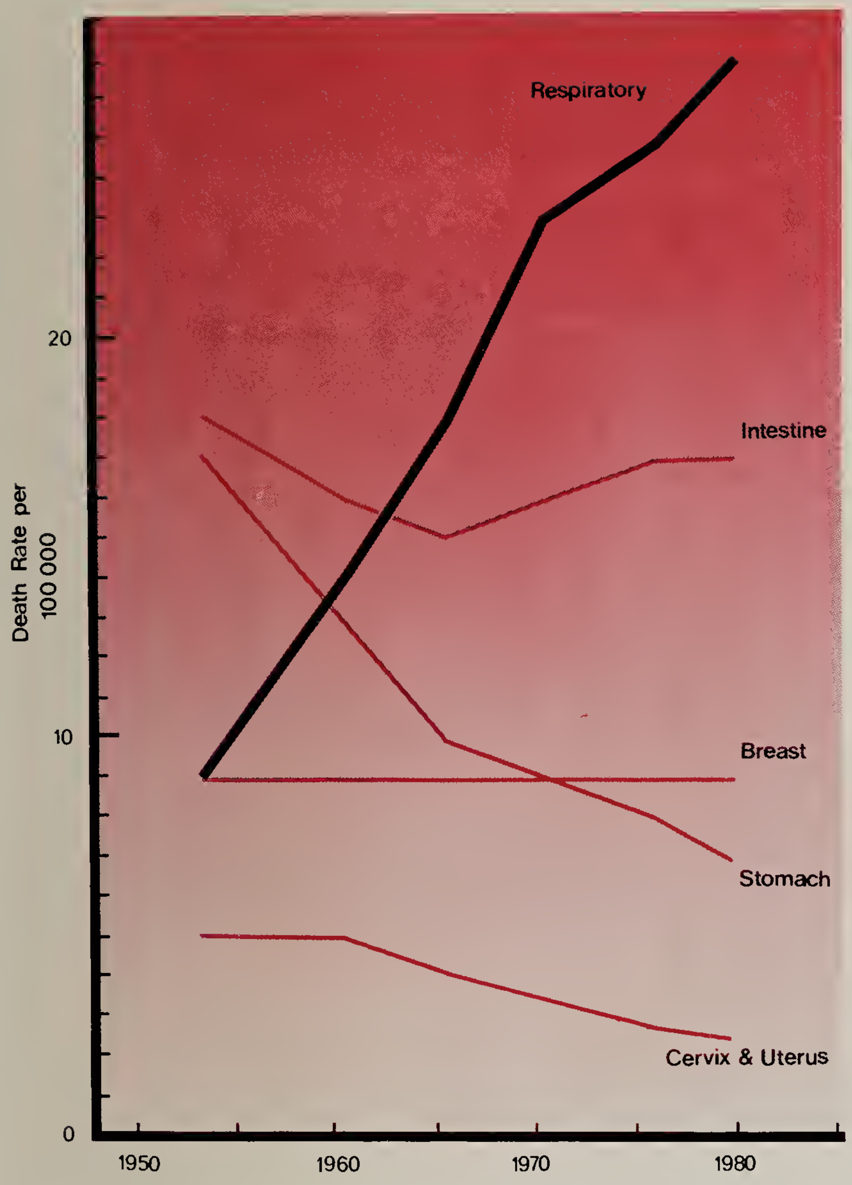

Figure 11. *Trends in mortality of cancer: Queensland 1952–55 to 1979–81.*

The main causes of cancer are tobacco, diet, infections, reproduction and sexual behaviour, occupation and solar radiation. Of these, the most important are tobacco and diet. Tobacco is the single most important cause of cancer mortality and its contribution to cancer mortality in the United States is estimated to be 30 per cent. Of particular concern therefore is the increase in smoking by young women and the high levels of smoking in school children. The role of dietary factors is thought to be potentially of the same order of importance as tobacco. However, there is considerable uncertainty about the proportion of cancer deaths that could be reduced by practicable dietary means (ranging from 10–70%) and about the particular dietary factors involved.

The campaign will cover primary prevention, secondary prevention and an upgrading of information available to oncology units on the survival of cancer patients and for research into the treatment of cancer.

The main priorities for primary prevention will be measures aimed at tobacco, diet and solar radiation. Secondary prevention programs, for screening for cancer of the cervix and breast, need to be reviewed and reassessed.

Community education programmes will be launched to promote community awareness about the need to avoid substances which could cause cancer, the importance of screening for certain types of cancer and the value of presenting early for treatment of cancer symptoms.

The specific measures to be undertaken include the formation of a Ministerial Advisory Committee on Cancer Prevention, and the appointment of appropriate staff to co-ordinate cancer prevention programmes, the introduction of guidelines for cancer prevention for hospitals and health centres, formation of expert committees and improved imformation services. These measures are described in further detail in the Cancer Epidemiology and Prevention section of this report.

Flying surgeon service

1984 marked the silver jubilee of the Queensland Flying Surgeon Service. The appointment of the first flying surgeon, Dr C. F. A. Cummins, on 9th April, 1959, enabled clinical support to be provided to isolated practitioners; and, as far as practicable, it allowed patients to receive major surgery in their home town near to their relatives, thus avoiding the expense, separation and inconvenience of a trip of up to 1 500 kilometres to a coastal centre. Based in Longreach, the surgeon and anaesthesist were available for consultations with doctors in some 21 towns with populations varying from 1 000 to 12 000.

The flying surgeon visited areas including Isisford, Blackall, Tambo, Alpha, Emerald, Clermont, Aramac, Barcaldine, Muttaburra, Winton, Hughenden, Richmond, Julia Creek, Cloncurry, Mount Isa, and Mary Kathleen. Apart from Mount Isa and Cloncurry, where the flying doctor was based, all the towns visited were one-doctor towns. Prior to the appointment of the flying surgeon these doctors, whose experience was mostly limited to 12 months' post-graduate experience, were compelled to undertake difficult emergency operations.

Dr Cummins resigned in late 1964 to be repalced by Dr D. D. Leaming until 16th April, 1969. Dr A. M. C. Paul began his work as flying surgeon at Longreach in November, 1969, and moved to Roma in 1980 on expansion of the service to include a second flying surgeon based at Roma. Dr R. G. Finemore replaced Dr Paul as flying surgeon at Longreach in December, 1980.

Between the establishment of the Queensland Flying Surgeon Service in 1959 and 1984, the surgeons covered more than 3 500 000 kilometres and carried out consultations with more than 47 000 patients.

Care of the aged

A new aged care policy was adopted in 1984.

Achievements to Date

In 1961 the Queensland Department of Health established a new division (Division of Geriatrics) to provide a specialist health and welfare service for elderly people to assist them to preserve their independence and dignity, to prevent disability and to promote their social well-being.

In 1984, professional services were delivered to the elderly in their homes through 56 community health centres.

Specialist hospital geriatric services are available at major hospitals. It is now departmental policy that such specialized units may contain assessment beds, acute beds for geriatric emergencies and a rehabilitation service. These units should also develop a day hospital to provide continuing help to elderly patients living at home.

The concept of providing multidisciplinary services is a modern approach to utilizing the skills of many health professionals to provide an integrated service to elderly patients. In addition to multidisciplinary assessment, environmental assessment is necessary to identify problems. The home environment can then be modified to make life easier for elderly persons suffering from physical disability. The Department of Health also provides prescribed medical equipment to assist in home care, such as home oxygen to maintain the life of patients suffering from crippling respiratory failure.

In addition to the development of home services throughout the State, the department has also developed high quality state nursing homes and aged persons homes for patients in need of special care not provided by other institutions (e.g. those conducted by religious and charitable organizations or the private sector). It is also government policy to encourage an increasing involvement of volunteers in the support of the elderly living at home.

New Aged Care Policy

A new aged care policy is in the process of adoption by the Department of Health, which includes integration of the delivery of services by staff previously employed by the Division of Geriatrics into the Division of Community Medicine. A core of specialized personnel will exist within the latter division to ensure the maintenance of expertise in the field of aged care. Further rationalization of the use of various departmental services which contribute to the care of the aged will be achieved by the creation of a Bureau of Aged Care, with representations from each of these services. In addition, an Aged Care Investigations Unit has been approved to examine cases of neglect and abuse of the defenceless elderly.

Proposed perinatal data collection

Register of Congenital Abnormalities

A register of congenital abnormalities has been operating in Queensland since 1st July, 1980. The data from the register are monitored by the Perinatal Mortality Committee, and quarterly reports of notifications are supplied to participating hospitals. Notification to the register is voluntary, and is limited to abnormalities detected at or shortly after birth during the period when a child normally remains in hospital with the mother. While the response has been gratifying, it is apparent that not all birth abnormalities are being notified. The resulting incomplete coverage of the register limits its usefulness.

It was therefore decided to strengthen the collection by requiring notification of perinatal statistics.

Perinatal Data Collection

In January, 1983, Cabinet approved the concept of a comprehensive perinatal data collection and in March, 1984, the Health Act was amended to provide for the Director-General of Health and Medical Services to require the supply of information on all births in Queensland. This will enable the collection of more extensive and complete information on perinatal morbidity than in the register of congenital abnormalities which collected data on only one aspect, and on a voluntary basis. Provision of data to the perinatal morbidity data collection will be compulsory.

During 1983–84, an expert committee of health department officers and hospital medical and nursing staff drafted a set of forms through which a perinatal morbidity data collection will operate. The collection will cover all births within Queensland, whether in a public or private hospital or at home. Items relating to the mother include demographic characteristics, obstetric and medical history and complications of labour; and those for the baby include details on the delivery, birth weight, plurality and presence of congenital malformations and neonatal morbidity. The forms have been successfully pilot tested at some of the public maternity hospitals.

It is anticipated that the perinatal morbidity data collection will commence during the coming year. Then for the first time Queensland will have comprehensive information on all facets of obstetric and neonatal care. Comparisons will be able to be made within the State or against other States.

Paediatric and maternity services

On 18th June, 1984, State Cabinet received two reports entitled *Paediatric Services* and *Maternity Services on the South Side of the Brisbane River*. These were the first reports to be completed by the Standing Committee on Rationalization of Hospital Services (Metropolitan and Country) and submitted to the Minister for Health. Implementation of the recommendations of the two reports by the Department of Health and relevant Hospital's Boards is now proceeding.

Library services

Continuing developments in the health sciences have produced enormous quantities of new information to which departmental staff at all levels need access in the performance of their duties. Branches and institutions have made efforts to provide for the information needs of their officers by establishing libraries and working collections of various size. Professionally staffed libraries now operate at the Department's Central Library, Wolston Park Hospital, Baillie Henderson Hospital, Intellectual Handicap Services, Alcohol and Drug Dependence Service, Division of Health Promotion and the Government Chemical Laboratory. These libraries are in general concentrated in the Brisbane regional area and, excepting the Central Library, serve well-defined user groups. Increasing demand and changing technological services available to libraries have established a need to develop further departmental library services.

In 1981 a committee representing various departmental disciplines and the State Library of Queensland was established to review library services and to consider organizational and financial structures appropriate for their development.

Following surveys and comparisons with library services in other departments, it was accepted in principle that services should be provided by a central library and branch libraries co-ordinated by a Librarian-in-Charge. The position was established and filled in 1983. A Standing Committee on Library Services has been established.

The Librarian-in-Charge has presented a report addressing the task of making library services and resources accessible to the largest possible user group whilst ensuring cost-effectiveness in terms of staff and material resources. The Standing Committee has recommended that responsibility for staffing and technical services be centralized for co-ordination and efficiency, whilst user services are developed at their point of use.

Medical Administration

Deputy Director-General of Health and Medical Services: K. J. DONALD, M.B., B.S.(Qld.), Ph.D.(Qld.), F.R.C.P.A., M.R.C.Path.

Assistant Director-General (Scientific Support Services): I. S. WILKEY, B.Sc., M.B., B.S.(Qld.), F.R.C.P.A., LL.B.

Assistant Director-General (Hospitals): W. J. SMITH, M.B., B.S.(Qld.)

Assistant Director-General (Community and Public Health): I. A. MUSGRAVE, M.B., B.S.(Qld.), D.T.M.&H.(Syd.)

Principal Medical Officer: D. KELLY, A.M., M.B., B.S.(Qld.), F.R.A.C.G.P., Dip.Ven.(Lond.)

Senior Medical Officer: J. S. RICHARDSON, M.B., B.S.(Melb.), D.P.H.(Syd.), D.Obst.R.C.O.G.

Medical Officer (Training): D. R. LENNOX, M.B., B.S.(Qld.)

Special Projects Officer: M. A. STEINBERG, Ph.D.(Qld.), M.Phty.(Research)(Qld.), B.Phty.(Hons.)(Qld.), Dip.Phty.(Qld.)

HEALTH AND MEDICAL SERVICES

RE-ORGANIZATION WITHIN HEALTH AND MEDICAL SERVICES

The major re-organization reported in 1983 has proved effective and efficient. The only re-organizational changes introduced in 1984 were the establishment of a Division of Specialized Health Services and a Vector Control Unit.

Specialized Health Services

Within the structural re-organization of Health and Medical Services, the Division of Tuberculosis, the Hansen's disease (leprosy) service and the enthetic (sexually transmissable disease) service have been amalgamated as a Division of Specialized Health Services.

The Division of Tuberculosis was established within the State Department of Health but financed by the Commonwealth Government in 1949. The three decades which followed were a period of intense planned activity in the control of tuberculosis. Various strategies including mass miniature radiography, BCG vaccination, organized chemotherapy and legislation for notification, were used. In 1976, the tuberculosis agreement between State Governments and the Commonwealth was concluded. Over the next five years, mass case finding activities were replaced by the selective examination of high risk groups and services were decentralized.

Although tuberculosis with its associated chest disease, Hansen's disease and the enthetic diseases pose unique separate problems, there are many similarities in operational aspects of their management and control.

Both tuberculosis and leprosy are at an advanced stage of disease control, but with both there are important residual problems. To maintain present levels of control and to approach eradication, special efforts will be required, particularly aimed towards the older Queensland population, indigenous Australians, migrants and the socially disadvantaged. Enthetic diseases are a changing and growing problem. Existing services offer prompt diagnosis and treatment. There is a need to enhance the public health arm of these services to consolidate contact tracing, education, prevention and research.

The new Division was created in January, 1984. Dr A. Patel has been appointed Director and a position of Assistant Director has been created.

Vector Control Unit

Significant health issues may require the formalization of inter-disciplinary teams to combat an immediate problem, and it is often found that these teams can address other health issues as well as the continuing problem. During 1983–84, a Vector Control Unit involving health inspectors and entomologists was set up within the Division of Environmental and Occupational Health with strong links to the Laboratory of Microbiology and Pathology and the Division of Health Promotion, to provide adequate surveillance of the dengue fever outbreak, and to institute investigations into the possible introduction and spread of other vector borne diseases, particularly in tropical regions. A particular problem is the establishment of large water bodies and agricultural projects using flood or ditch irrigation, and their effects on mosquito breeding. This is an issue which will be addressed initially by the new unit.

The extent to which Northern Queensland is vulnerable to the re-introduction of malaria is being investigated also. This exercise will be undertaken by the Vector Control Unit in collaboration with the Torres Strait Malaria Field Station to be operated on Horn Island by the Commonwealth Institute of Health within the University of Sydney.

STAFF SECTION

Principal Retirements

Dr Douglas Wilson

Dr Douglas Wilson was appointed to the position of Government Medical Officer, Brisbane, in March, 1968. He retired on 16th March, 1984.

Dr Wilson served in the AIF during the Second World War and graduated in Medicine from the University of Queensland in 1952. He obtained the Diploma of Public Health from the University of Sydney in 1966 and in 1975 he obtained the Diploma of Medical Jurisprudence (Clinical) of the Society of Apothecaries, London. In 1975 he was awarded a Public Health Advisory Committee Travelling Fellowship to study modern trends and the practice of clinical forensic medicine in North America and Europe. In 1978 he was awarded a Fullbright Senior Scholarship to study modern concepts in traffic medicine in the United States.

The Government Medical Officer in Brisbane provides medical services to government departments particularly the Public Service Board, Railways, Police, Transport and Prisons Departments. In addition to clinical services, clinical forensic medicine and public health medical examinations, Dr Wilson has made an important contribution in providing advice on a variety of medical matters to government departments. Dr Wilson has been particularly interested in road safety and was instrumental in the introduction of breath analysis for alcohol and associated legislation in this State.

Dr Wilson is a member of the Research Committee of the Queensland Road Safety Council. He has been a lecturer in forensic medicine at the University of Queensland since 1968.

Miss Eileen Dobbyn

Miss Eileen Dobbyn retired as Senior Social Worker, Division of Community Medicine, on 18th May, 1984, after two decades of service to the Queensland Department of Health.

On 25th February, 1963, Miss Dobbyn became the first female student to be awarded a Health Department Fellowship to the University of Queensland to enable her to complete her studies. She commenced duty as the first social worker, Division of Geriatrics, in January, 1965, and in 1969 was appointed Senior Social Worker to that Division. In 1974 she was promoted to the newly created position of Senior Social Worker, Division of Community Medicine.

From a zero base the establishment number of social workers has grown to more than 60 social workers, providing services in the community from Community Health and Community Home Care Centres. Since the early 1960s, social workers employed in the department had provided a counselling service to the families of babies who died through cot death. In 1978, Miss Dobbyn, in conjunction with Dr John Tonge, was instrumental in establishing what was the first Sudden Infant Death Syndrome parent support group in Australia.

In 1974 she was awarded a World Health Organization Travelling Fellowship which enabled her to gain up to date knowledge of the state of development of social work services in the western world. The knowledge gained assisted Miss Dobbyn to develop the high quality social work services that are delivered by the Department of Health at Community Health Services throughout Queensland.

Other Staff Changes

Dr J. F. McFarlane was appointed Director of Child Health, Division of Child Health, on 22nd December, 1983.

Dr G. S. Urquhart, Director of Psychiatric Services, was seconded to undertake special duties in the Department from 22nd December, 1983 to 3rd June, 1984.

Dr J. M. Ridley, Medical Superintendent, Baillie Henderson Hospital, was seconded to the position of Acting Director of Psychiatric Services from 22nd December, 1983 to 19th January, 1984.

Dr P. J. Tucker ceased duty as Child Guidance Specialist, Division of Youth Welfare and Guidance, on 16th January, 1984, and was appointed Deputy Director of Psychiatric Services on 19th January, 1984.

Dr J. F. Wood was appointed Medical Superintendent, Wolston Park Hospital, on 13th October, 1983.

Dr J. R. Roper was appointed Deputy Medical Superintendent, Wolston Park Hospital, on 1st March, 1984.

Dr G. Finnemore was appointed Deputy Medical Superintendent, Baillie Henderson Hospital, on 14th June, 1984.

Mrs J. M. C. Wright, Deputy Director, Intellectual Handicap Services Branch, Division of Psychiatric Services, ceased duty on 27th September, 1983.

Mr J. Joachim was appointed Deputy Director, Intellectual Handicap Services Branch, Division of Psychiatric Services, on 7th June, 1984.

Dr R. P. Davison resigned as Central Regional Medical Officer, Aboriginal Health Programme, as from 25th November, 1983.

Mrs J. Breakey, Adviser in Nutrition and Dietetics, resigned as from 30th December, 1983.

Mrs N. A. Isaacs was appointed Adviser in Nutrition and Dietetics, on 15th March, 1984.

Mr F. Ryan, Adviser in Pharmacy, was awarded a scholarship under the Study and Research Assistance Scheme to undertake the Doctorate in Pharmacy course at the University of Nebraska Medical Centre, Omaha, United States of America, and successfully completed the course.

Dr G. Bradshaw commenced duty as Medical Officer, Alcohol and Drug Dependence Service, on 15th August, 1983.

Mr L. N. James and Dr J. M. O'Shea commenced duty as Senior Technical Advisory Officers, Government Chemical Laboratory, on 8th August, 1983.

Dr W. J. Mair resigned as Staff Pathologist, Laboratory of Microbiology and Pathology, on 16th September, 1983.

Dr P. T. Cooney joined the staff of the Laboratory of Microbiology and Pathology as Pathologist on a temporary basis on 3rd January, 1984, and was appointed Pathologist in Charge, Anatomical Pathology, on 19th April, 1984.

Mrs M. Wiemers, Senior Serologist, Laboratory of Microbiology and Pathology, was awarded a Public Health Travelling Scholarship to enable her to study laboratory techniques of arborvirus infection in South-East Asia, United States of America, United Kingdom and Scandinavia.

Dr M. A. Steinberg commenced duty as the first Special Projects Officer in Health and Medical Services on 1st August, 1983.

Mrs L. Van der Est resigned as Senior Social Worker, Division of Geriatrics, on 14th October, 1983.

Mr K. J. Culpan was appointed Senior Social Worker, Division of Geriatrics, on 22nd March, 1984.

Dr P. M. Brett retired as Medical Officer, Community Home Care Service, Division of Community Medicine, Fortitude Valley, on 9th March, 1984.

Mrs H. Jones, Librarian, retired on 6th April, 1984.

Mr P. D. R. Thompson was seconded as Librarian in Charge as from 21st November, 1983.

Dr J. A. McDade was appointed Medical Officer, Flying Surgeon Service, Longreach, on 9th February, 1984.

Staff members were saddened by the sudden death of Dr J. P. Foley, Medical Director, Division of Youth Welfare and Guidance, on 20th March, 1984. Dr Foley had served the Department with distinction for some 20 years.

RATIONALIZATION OF HOSPITAL SERVICES

The Standing Committee on Rationalization of Hospital Services (Metropolitan and Country) has a number of reports which have either been completed or are nearing completion. These include reports on Trauma and Allied Matters (Metropolitan & Near Metropolitan Areas), Acute Inpatient Psychiatric Care, Maternity Services and Neonatal Services. The deliberations of Working Parties on Oncology Services, Anaesthetic Services and Medical Records are continuing. The Standing Committee has also resolved to establish a Working Party on Quality Assurance.

The consultative processes of the rationalization project have permitted input from a very broad base of experience and expertise in the hospital services area. About 80 persons have had a direct contribution to the activities of working parties. While the basis of working party membership has been determined to be individual expertise rather than representation of interests, working party members are able to consult with their fellows and other interested parties during deliberations. This process has brought many valuable contributions to the tasks of the working parties and to the final reports of the Standing Committee.

HOSPITAL MEDICAL ADMINISTRATION

Advising on relevant staffing, equipment, works, personnel and professional matters in respect to Queensland public hospitals has continued to be a significant medical administrative function of the Health and Medical Services Branch. The extensive hospital capital works programme being undertaken in the State, particularly the redevelopment of Rockhampton, Townsville, Nambour, Gold Coast and Royal Children's Hospitals, has generated a greater degree of medical officer involvement in capital works matters during the year than has previously been the case.

A new initiative in departmental administration was implemented with the establishment of three multidisciplinary teams, each to comprise a medical, nursing and administrative officer. The medical officer positions have been advertised. The primary function of the teams is to review hospital and other health services in designated zones of the State. With the appointment of medical staff to these positions, the capacity of the branch to fulfill its role in the expanding field of hospital medical administration will be greatly enhanced.

PRIVATE HOSPITALS AND NURSING HOMES

As at 30th June, 1983, there were 3 845 beds available in 47 private hospitals in Queensland. During 1983–84, an additional 74 beds were licensed as extensions to five hospitals, and 89 more beds were provided by two new hospitals—one being metropolitan.

Nursing home beds increased by a net 116 beds, this number resulting from—

- the opening of 2 new homes—140 beds;
- the extension of 1 home—60 beds;
- the transfer of 2 homes to Commonwealth jurisdiction—64 beds;
- the closure of 1 home—20 beds.

There are now 4 345 private nursing home beds licensed in 78 homes.

During 1983–84, 57 inspections were carried out on private hospitals and 165 inspections were made of nursing homes.

The delivery of a suitable standard of care, dietary provision and environment continues to be the prime responsibility of this Department in relation to these institutions.

ADVISORY SERVICES

The reports of the advisory groups within Health and Medical Services are presented in this section.

STERILIZING SERVICES

Adviser in Sterilizing Services: D. W. FRIEND, B.Sc., S.T.C.

Mr Friend has been granted personal leave for 12 months.

REHABILITATION SERVICES

Director of Rehabilitation Services: P. H. HOPKINS, F.R.C.S.(E), F.R.A.C.S, F.A.C.R.M.

During the past year Medical Rehabilitation Services for the disabled within the Health Department were further developed. The programmes for provision of special equipment and other rehabilitation aids and appliances is central to the Department's services for persons and families coping with disability. The philosophy behind the schemes is to assist independent living in the community. The scheme is administered by the Department's Welfare Section which also administers the Commonwealth Programme of Aids for Disabled Persons (P.A.D.P. Scheme). A wide range of aids and equipment of increasing cost and complexity are provided under these two schemes including home modifications. There is an increasing volume of requests for assistance under both these programmes. Decentralization of some aspects of their administration has taken place over the last 12 months.

Requests for mobility aids of one form or another, and in particular requests for special seating inserts or modifications to standard wheelchair seating, appear very much on the increase. Presumably this reflects the raised expectations and increasing community integration of very severely disabled adults and children. The Seating Clinic at the Royal Children's Hospital has been very heavily booked with cases. An Interdepartmental Advisory Committee on seating and lifting problems for severely handicapped children in special schools has continued to meet during the past year. This committee works to the Interdepartmental Standing Committee on Health Education and Welfare.

In the rehabilitation engineering area Mr Graham West from Princess Alexandra Hospital, this year commenced a three-year professional training course in orthotics and prosthetics at the Lincoln Institute, Melbourne. A second candidate from the Royal Brisbane Hospital will start at the Lincoln Institute in 1985. A clinic for limb deficient children commenced operation at the Royal Children's Hospital in March, 1984. This is the first such clinic in Queensland and will in particular better co-ordinate early prosthetic care and the prosthetic management of oncology cases.

A 40-bed specialist nursing unit for younger disabled persons has been planned and approved for Brisbane at Bald Hills. This unit has a 20-bed annexe with single room accommodation which allows for more privacy and independence; and a further 20 beds in ward areas for cases requiring more extended care and direct supervision. Very considerable community interest has been shown in the Department's plans for Bald Hills. Accommodation for the young adult severely disabled group is the major concern of all voluntary organizations dealing with this age group.

The Queensland Consultative Committee on Rehabilitation has continued to meet during the year. Since last year's report the National Advisory Council for the Handicapped in Canberra has been replaced by the Disability Advisory Council of Australia (D.A.C.A.). D.A.C.A. recently convened a meeting of all State Disability Advisory Committees or their equivalents to improve communication between representative groups and exchange information. The Queensland Committee's agenda is basically concerned with specific issues coming in the main from individuals. During this year the Commonwealth carried out a review of its Handicapped Persons Programme. Members of the Consultative Committee met with the review team during its Queensland visit. The emphasis on self-help groups and parent support groups was noted by the Committee, and follows a world-wide trend.

OCCUPATIONAL THERAPY

Adviser in Occupational Therapy: R. M. READ, B.Occ.Thy.(Qld.)

During the year under review there was an addition to the number of hours of occupational therapy services to smaller hospitals with part-time occupational therapy positions. These included additions at Atherton, Innisfail, Warwick and Mareeba and the creation of a part-time recreation officer position for the new nursing home at Warwick. The re-designation of one position increased the occupational therapy staff establishment at the Mater Adult Hospital.

The newly-established occupational therapy service at Dalby Hospital and the Jubilee Nursing Home has almost completed the first year of operation. A visit was made by the Adviser to discuss any difficulties that were being encountered in the early stages of development. Other visits were made to hospitals in Toowoomba, Ipswich, Nambour and Gold Coast as well as a number of metropolitan centres.

Recommendations have been made concerning the occupational therapy requirements in plans for new facilities or re-developments at Roma, Bundaberg, Maryborough and Wondai Hospitals; the Bald Hills Young Disabled Living Unit and the Rockhampton Nursing Home.

The standard format developed for the preparation of submissions for additional occupational therapy staff positions in public hospitals has proved satisfactory, and most applications are now well documented and include the necessary relevant information. Requests for new or additional positions are increasing, there having been submissions for 14 full-time positions and five for part-time positions or additional hours for the 1983–84 year.

In accordance with a variation of the Physiotherapist, Occupational Therapists and Speech Therapists, Public Hospitals Board Award — State, additional supervisory positions have been created. These have included senior positions attached to specialist clinical areas at the Prince Charles, Princess Alexandra, Mater, Royal Brisbane and Townsville Hospitals and a deputy occupational therapist in charge position at Princess Alexandra, Prince Charles and Royal Brisbane Hospitals. These positions were created through a re-designation of existing occupational therapy staff positions and overcame an anomaly which existed in the award and which became a problem as staff establishments increased significantly.

Policy guidelines have been established, outlining the circumstances under which home visits can be made by occupational therapists employed by Hospitals Boards. Liaison with Community Health Services Centre staff is encouraged to facilitate the transfer of the responsibility for patient follow-up from hospital to community-based agency at the time of the patient's discharge.

The amalgamation of the Division of Maternal and Child Health and the Division of School Health into the Division of Child Health has implications for occupational therapy. Proposed assessment teams throughout the State are likely to include occupational therapists and the Adviser has been involved in defining the role of occupational therapists in the new Division. As any new service may be limited initially, it has been necessary to review all existing occupational therapy services available to children so that any additional service is provided in areas of greatest need and unnecessary overlap is avoided.

The Adviser is the Department of Health representative on the recently reformed Advisory Committee for the Blind which reports to the Honourable the Minister for Welfare Services. The Committee's Terms of Reference include: general matters affecting the blind in the community, including possible new government initiatives and methods of developing a better understanding in the community of government policy and services to the blind.

Active participation has been maintained as a member of the Queensland Committee on Recreation for Disabled People, a standing committee of the Queensland Recreation Council. A paper, *Tapping Community Resources* was presented at the Committee's seminar/workshop in Toowoomba, attended by delegates from surrounding areas. Occupational therapy students from the University of Queensland have continued to participate in the committee's recreation camps where they learn first hand of the problems associated with living with a disability and begin to appreciate the recreational needs of their future clients.

The Adviser was the Queensland delegate to the second meeting of the National Committee on Recreation of the Australian Council for Rehabilitation of Disabled in Canberra. Of particular value is the exchange of information on innovative programmes introduced in each State.

The Adviser was appointed a member of the Associate Diploma in Recreation Studies Course Assessment Committee of the Brisbane College of Advanced Education as a representative of an employer group. The course, formerly the Associate Diploma in Community Recreation, is required to be re-accredited every five years. A number of recreation officers employed in occupational therapy departments have associate diploma qualifications.

Contact has been maintained with the Department of Occupational Therapy, University of Queensland, through talks given to final year students on the availability of positions in Queensland and on registration requirements. There are currently almost 400 registered occupational therapists in the State.

The Adviser attended meetings of the Queensland Consultative Committee on Rehabilitation as a member of the secretariat; is a member of the Interdepartmental Advisory Committee on Professional Support Services for Children; and is Chairman of the Occupational Therapists Board of Queensland.

PHYSIOTHERAPY

Adviser in Physiotherapy: J. CORRIGAN, Dip.Pthy.Qld.

During the year, the Adviser in Physiotherapy has continued to act as a consultant to Divisions of the Health Department and hospitals in regard to physiotherapy services.

Hospital Services

Physiotherapy services in the State hospital system expanded by one full-time position (at Gold Coast Hospital) and by additional hours to part-time positions at Tully, Maleny, Caloundra and Mossman Hospitals as well as an expanded service to cover Biggenden Hospital. Meetings have been held with the Public Service Board regarding the introduction of a two-shift system for physiotherapists into their present Award. A two-shift system has been operating successfully at Prince Charles Hospital.

Divisions of the Health Department

Presently, a service to children at school is provided through physiotherapists employed in the Division of Community Medicine. One physiotherapist is employed to work at Woody Point Special School and one works at schools on the southside of Brisbane. With the development of the Division of Child Health, work has commenced to formalize the employment of these physiotherapists within the new division working closely with other staff within the divisional teams.

State Conference

A second State Conference for Heads of Physiotherapy Departments with a staff of three or more was held in the Department of Health, Brisbane, in October 1983. Physiotherapists representing State hospitals, Community Medicine, Psychiatric Services and Intellectual Handicapped Services attended. A number of departmental staff participated in the various sessions, thus allowing discussion of departmental policies and procedures.

General

Evaluation of equipment as well as liaison with manufacturers and suppliers of physiotherapy equipment has continued. This activity also involves liaison with the Physiotherapy Department, University of Queensland, and other physiotherapy services.

Involvement has continued with departmental officers, architects and services regarding architectural planning and equipping of new or renovated physiotherapy departments. Participation in the selection of staff for various hospitals and divisions has continued.

The Adviser in Physiotherapy continued to be a member of: the Interdepartmental Advisory Committee on Professional Support Services for Children; the Secretariat of the Queensland Consultative Committee on Rehabilitation; and to be Deputy Chairman of the Physiotherapists Board of Queensland.

MEDICAL RECORDS

Medical Record Administrator: L. CLAVARINO, Assoc.Dip.M.R.A.

Medical Record Administrator: R. EDSALL, Assoc.Dip.M.R.A.

The Medical Record Administrators continued to oversee developments in medical record services in Queensland. Several hospital re-building programmes are including updated medical record facilities. Advice has been given on planning and equipping these areas.

Hospital Visits

Visits have been made to the following hospitals: Ipswich, Bundaberg, Cairns and Nambour.

New Projects

The Medical Record Administrators were involved in a review of the Welfare Office record system, entailing folder design and filing methods. In the last year a new medical record system was designed for Cairns Base Hospital. This system was based on those in operation at Gold Coast and Q.E.II Hospitals.

Conferences Attended

The following conferences were attended: Ninth International Health Records Congress (Auckland, New Zealand), Tenth Australian Conference on Medical Records (Sydney), Introductory Allied Health Professional, Quality Assurance Workshop (Brisbane).

Committees

The Working Party on Medical Records met for the first time in March with the Medical Record Administrators as the joint secretariat.

Liaison has continued with Queensland Institute of Technology in relation to the course in Medical Record Administration.

PHARMACY

Adviser in Pharmacy: Dr F. RYAN, Pharm.D.(Nebraska), Ph.C.(Vic.), M.A.(Griffith), B.H.A.(N.S.W.), F.S.H.P., M.P.S., A.H.A., A.A.I.M.

Pharmacy Services

The range of current services provided by pharmacy departments in State hospitals and institutions was maintained during the year. Limitations imposed on the expansion of staff establishment numbers were responsible for a consolidation of these services occurring rather than the introduction of new services or the expansion of existing services taking place.

A pharmacist was appointed to the position which has previously existed at Charters Towers Hospital and which became available during the year.

The Queensland Drug Information Centre at the Royal Brisbane Hospital continued to develop its data base and to provide information services to a growing number of enquirers from throughout the State.

The number of pharmacists employed in State hospitals and institutions in Queensland as at 30th June, 1984, was as follows:—

Pharmacists employed by Hospitals Boards	150
Pharmacists employed in the Division of Psychiatric Services Institutions . .	10
Pharmacists employed in Eventide Homes for the Aged	3
Total	163

Committees

The Adviser in Pharmacy participated in several committee activities which included the Queensland Hospitals Drug Advisory Committee, the Minister's Pharmacy Advisory Committee, the National Therapeutic Goods Committee and the N.T.G.C. Sub-Committee on Child Resistant Packaging of Drugs and Pharmaceuticals. He served as Deputy Chairman and Treasurer of the Pharmacy Board of Queensland and as a Vice President of the Hospital Pharmacy Section of the Federation of Asian Pharmaceutical Associations.

Overseas Study Programme

The Adviser in Pharmacy was granted leave under the Study and Research Assistance Scheme during 1983–84 to undertake a study programme in the United States of America. The programme was based at the University of Nebraska Medical Centre, Omaha, Nebraska, U.S.A., and involved clinical pharmacy, drug research and pharmacy administration services.

Professional Activities

A large number of enquiries dealing with the use of drugs and medications and related matters were directed to the Adviser in Pharmacy by members of the general public. The Department of Health, Hospitals Boards and other government departments and agencies were advised on the selection of drugs and pharmaceuticals for use in Queensland hospitals, on the placement of pharmacy staff, on the purchase of equipment and on the layout and design of pharmacy departments. Investigations were carried out by the Adviser which dealt with drug recalls and with various aspects of drug production, packaging and distribution of medications for hospital use. A new edition of the Standard Drug List for Queensland Hospitals was printed and distributed during the year to hospitals and institutions throughout the State.

Liaison on behalf of the Department was maintained with the official pharmacy organizations in Queensland, with the pharmaceutical industry, with the Department of Pharmacy, University of Queensland, and with the pharmaceutical branch of the Commonwealth Department of Health and the National Biological Standards Laboratory.

NUTRITION AND DIETETICS

Adviser in Nutrition and Dietetics:

Mrs J. BREAKEY, D.N.F.S.(Vic.), Cert.Diet(W.A.), T.T.T.C.(Vic.), M.D.A.A, (to 31st December, 1983)

Mrs N. ISAACS, B.Sc.(Qld.), Dip.Nut.andDiet.(Syd.), M.H.P.(N.S.W.), M.D.A.A, A.I.D.(N.S.W.), A.H.A.(prov.) (from 15th March, 1984)

Assistant Adviser in Nutrition and Dietetics:

Mrs N. ISAACS, B.Sc.(Qld.), Dip.Nut.andDiet.(Syd.), M.H.P.(N.S.W.), M.D.A.A., A.I.D.(N.S.W.), A.H.A.(prov.) (to 15th March, 1984)

After more than four years as the first appointee to the position of Adviser in Nutrition and Dietetics, Mrs Breakey resigned to complete her studies. During those four years, the role of Adviser expanded progressively such that an Assistant Adviser was appointed in February 1982. The science of food, nutrition and dietetics has now been recognized as an integral part of health and fitness by consumers, namely health care facilities, other institutions, nursing homes, the voluntary agencies, food industry and the public generally. This new awareness is reflected by the increasing demand for dietetic services.

Queensland Dietetic Services

In accordance with priority assessment of need, two new hospital dietetic services commenced with full-time positions at Warwick, including provision for service to Goondiwindi and Stanthorpe Hospitals and at the Bundaberg Hospital. As with all new appointees, a Brisbane-based two-day orientation programme was provided for these and three other dietitian-nutritionists.

There are now 41.1 dietitian-nutritionist positions in hospitals and institutions throughout the State and an additional five are employed in the Queensland Health Department. The role of the hospital staff is now expanding such that continuity of care from hospital to the community is encouraged.

A significant part of the work done by the Advisers rests in the support of hospital dietetic departments. Ten public hospital visits were made during the year primarily to assess dietetic services and food service elements.

State Conference

State hospital dietitian-nutritionists attended the first departmental conference in October 1983. Teaching hospital and departmental staff provided valuable update information for isolated country staff. Formal evaluation of the conference provided outcome criteria for use by the Advisers in future planning of hospital departments.

Aged Care

The responsibility of providing a consultancy service to nursing homes and other aged care agencies resulted in seven nursing home inspections and two lectures on *Nutrition in Later Life* to members of The Queensland Council on the Ageing and Later Years Incorporated. The printing of a resource Manual on Nutrition and Food Service for nursing homes has proved to be extremely valuable for nursing home staff, in interpretation of the relevant regulations of the Nursing Home Regulations, 1982.

Nutrition Support Services

An increasing number of the general public and volunteer and community support groups have requested nutrition information during the year. The Advisers prepare resource materials regularly to meet this demand and have provided many talks. Of particular interest in this respect was the seminar organized with the Brisbane Central Region, Blue Nurses Association for nursing and food service staff. In addition, talks were provided for aged care support groups, the Queensland Cancer Fund, preschool and kindergarten teachers, at tuckshop seminars in Rockhampton and Gladstone and to students of Gatton Agricultural College studying food technology.

Close liaison with, and the provision of specific nutritional information for other government departments and associations was maintained. These included the Police Department, Education Department, the Consumer Affairs Bureau, the Food Technology Association (Queensland Branch) and the Australian Nutrition Foundation.

A *Vegetarian Eating Guide* pamphlet, revised tuckshop posters and nutrition guide notes for health education staff was prepared by the dietitian-nutritionist employed in the Division of Health Promotion and approved for publication by the Adviser. Furthermore, the dietitian-nutritionists of the Aboriginal Health Programme have continued to develop progressive resource material in their role in dietary management support for community-based staff.

The Advisers, with departmental dietitian-nutritionists, also provided in-service training to two groups of nurses involved in nutrition education in those divisions which do not have direct dietetic support.

Hospital Food Services

A number of hospitals have benefited this year by gaining improved, modern and efficient food service systems.

Metropolitan hospital dietetic and catering staff met with departmental and frozen food facility management four times at frozen food rationalization meetings during the year. These meetings have proved extremely successful in facilitating communication between user and management groups. Recommendations made to the Frozen Food Advisory Body encompass hygiene, nutritional and quality issues and ensure an optimal standard of food served to patients and residents of public hospitals and institutions.

The Gatton Agricultural College staff continue to assess the frozen food products in regard to nutritional analysis as requested by the Advisers. These continual surveillance measures support the optimal quality end product.

Public Health

The Advisers continue to have an input into the Food Standards Committee and participate with food inspectors in the assessment of food product labels and nutritional claims for food products as they apply to the Food Standards Regulations, 1982.

Conferences

Eight conferences were attended during the year to ensure the Advisers have current scientific information on which to base recommendations. Relevant information from each conference was collated and distributed to hospital and departmental personnel to ensure updating of these information bases.

Dietetic Student Training

The Advisers assisted in the co-ordination of the community nutrition practical course for the Queensland Institute of Technology, Diploma of Nutrition and Dietetics Course. The Aboriginal Health Programme, Divisions of Community Medicine, Maternal and Infant Health, and Health Promotion provide training for these students.

Representation by the Adviser was also made on the Course Assessment Committee, the Board of Examiners Meeting and Hospital/Q.I.T. Liaison Committee meetings for the Diploma of Nutrition and Dietetics.

Cancer Epidemiology and Prevention Unit

Director: I. A. RING, M.B., B.S., M.P.H., M.Sc.

CANCER REGISTRY

First Report on Incidence and Mortality

Preliminary analysis of the first year's data for the registry and comparisons with data from other States indicate that data for the first year will be sufficiently reliable to be published. The first report on the increase and mortality of cancer in Queensland is therefore expected to be ready for publication by the end of 1984.

Use of Cancer Registry Data

Even before the first year's data has been published, data from the registry has been used for a wide variety of cancer research topics including: paediatric malignancy; soft tissue tumours and lymphomas in relation to dioxin and herbicides; early deaths from breast cancer; hepatocellular cancer and chronic liver disease; mesothelioma; hepatocellular cancer in aborigines; survival from lung cancer; and squamous cell cancer of the urethra.

National Paediatric Cancer Registry

The national paediatric cancer registry is now based in Queensland and operated jointly by the Department of Child Health University of Queensland, and the Queensland Cancer Registry.

Skin Cancer Study

The usual practice of Australian Cancer Registries is to exclude skin cancers, because of the large numbers involved and because many skin cancers do not require admission to hospital and do not have a pathology report, and hence are not covered by the usual registry procedures. However, because of the particular importance of skin cancer in Queensland it was decided not to exclude skin cancers from the scope of the registry. In addition it was decided to mount a survey of those skin cancers not covered by the usual procedure (cancers without histopathology and seen by general practitioners or in hospital out-patients) so that this data could be combined with the registry's data on skin cancer to provide an estimate of the total incidence of skin cancer. The registry was successful in obtaining a grant from the Queensland Cancer Fund for this survey which has now been commenced in the Cairns, Mount Isa, Toowoomba, Gold Coast and Brisbane areas.

The results will not only provide the first comprehensive information on the patterns of skin cancer throughout the State but will provide information for the introduction and assessment of prevention programmes for skin cancer.

Geographic Patterns of Cancer Mortality

An analysis of cancer mortality for different parts of the State has been completed for the years 1974–78. It is planned to extend this study to cover the ten year period to 1982.

Cohort Analysis

A method of analysis has now been developed and implemented which will permit the analysis of birth cohort effects. This method will now be applied to cancers with an increasing mortality rate.

Trends in Cancer Mortality and Comparisons of Cancer Mortality in Queensland and Australia

The Queensland Cancer Registry has produced a report on cancer mortality in Queensland for the period 1952–1981 and on a comparison of cancer mortality in Queensland and Australia for the period 1979–1981. The principal findings from the report are:—

- Cancer is the only major cause of death with an increasing mortality. Since 1969–72 the standardized mortality for all causes has declined by 22 per cent but cancer mortality has increased by 7 per cent.
- The standardized mortality from cancer has increased by 15 per cent since 1952–55.
- Cancer is the second most common cause of death and in 1982 caused 20 per cent of all deaths (3 677).
- Almost half of all cancer deaths are from four sites, lung (22%), colon and rectum (13%), breast (8%), and stomach (6%).
- The most important change in cancer mortality is the increase in mortality from lung cancer which is now three times the level it was in 1952–55.
- During the last 30 years there have been major increases in mortality from brain and nervous system, connective and other soft tissue, reticuloses, and melanoma; and lesser increases in mortality from liver, gall bladder and bile ducts, pancreas, urinary tract, thyroid and other endocrine, and leukaemias.
- During the last 30 years there have been significant reductions in mortality for the following cancers: stomach, uterus and cervix, bone, testis, non melanoma skin cancer.
- Mortality from cancer in Queensland is 5 per cent lower than for Australia as a whole. Mortality in Queensland from melanoma and other skin cancer is higher than for Australia. Mortality in Queensland from oesophagus, stomach, intestine, pancreas, respiratory cancers and cancer of the prostate is lower than for Australia as a whole.

CANCER PREVENTION

Following the release of the report on cancer mortality approval has been given to mount an anti-cancer campaign programme with the aim of stopping the increase in cancer mortality in 10 years and causing it to decline by five per cent within 20 years.

The programme will be implemented by a new organization called the Cancer Epidemiology and Prevention Unit which is being established in conjunction with the existing Queensland Cancer Registry.

The campaign recognizes the vital role played by community groups and professional bodies and input from the various public and private sources will be co-ordinated by a Ministerial Advisory Committee on Cancer Prevention which will report on progress of the campaign.

A medical officer is being appointed within the Health Department to co-ordinate cancer prevention activities.

A mass media campaign will be launched to promote community awareness about avoiding substances which cause cancer, the importance of screening for certain types of cancer and the value of presenting early for treatment of cancer symptoms.

Guidelines will be issued to all hospitals and health centres on measures which should be implemented to ensure that each centre plays its part in cancer prevention.

The potential from screening persons at high risk of breast cancer is to be investigated.

Expert committees will be established to formulate dietary guidelines for the prevention of cancer, and to review the coverage of screening programmes for cancer of the cervix.

A data management unit is to be established at the Queensland Cancer Registry to assist in the collection and analysis of cancer data from hospitals.

Division of Environmental and Occupational Health

Director, Division of Environmental and Occupational Health: R. A. RAMM, M.B., B.S.(Qld.), M.H.P.(U.N.S.W.), F.R.A.C.M.A.

Assistant Director (Occupational Health): D. A. SMITH, M.B., B.S.(Qld.)

Senior Medical Officer (Health and Medical Services): A. T. C. BOURKE, M.Sc.(Liv.), M.D.(Dubl.), Dr.P.H.(Yale), F.R.C.P.A., F.A.C.P.M., M.A.S.M., D.T.M.&H.(Eng.) (Position redesignated Epidemiologist from 1-3-84—Position Vacant)

Senior Medical Officer (Occupational Health): G. R. NEVILLE, M.B., B.S.(Qld.)

Medical Officer (Environmental and Occupational Health): Position Vacant

Chief Inspector of Foods: W. J. SHIELDS, Cert.R.S.H., A.A.I.H.S.

Chief Inspector of Drugs and Poisons: K. F. KEEFER, Cert.R.S.H., A.A.I.H.S.

Chief Inspector of Environmental Sanitation: W. J. T. LANE, Dip.R.S.H.

Principal Health Inspector: R. J. LOWRY, Dip.R.S.H.

DISTRICT OFFICES

Brisbane— Senior Health Inspector: W. R. MITCHELL, Dip.R.S.H., A.A.I.H.S.

Gold Coast—District Health Inspector: A. G. TAYLOR, Dip.R.S.H.

Toowoomba—District Health Inspector: A. W. WARE, Dip.R.S.H., A.A.I.H.S.
R. N. MILLER, Dip.R.S.H. (Acting from 2-4-84)

Nambour—District Health Inspector: J. A. SANDERSON, Cert.R.S.H., M.A.I.H.S.

Bundaberg—District Health Inspector: M. J. PRICE, Dip.R.S.H., A.A.I.H.S.

Rockhampton—District Health Inspector: T. J. LUNNEY, Dip.R.S.H., M.A.I.H.S.

Mackay—District Health Inspector: D. J. LARSEN, Dip.R.S.H.
G. BIELBY, Dip.R.S.H., M.A.I.H.S. (From 1-2-84)

Townsville—District Health Inspector: G. D. HAPGOOD, Dip.R.S.H., A.A.I.H.S.
D. J. LARSEN (From 3-2-84)

Cairns—District Health Inspector: G. J. DORRICOTT, Dip.R.S.H.

VECTOR CONTROL UNIT
(Operation commenced 1st January, 1984)

Director (Part-time): B. H. KAY, B.Sc.(Hons.), Ph.D.(Qld.)

Senior Health Inspector: G. D. HAPGOOD, Dip.R.S.H., A.A.I.H.S.

Entomologists: P. BARKER-HUDSON, B.Sc.(Bristol)
R. G. PIPER, B.Sc.(Hons.)(Qld.)

INTRODUCTION

The Division of Environmental and Occupational Health has completed its first full year of operation, and several new initiatives have been completed. The most significant is the formation of the Brisbane District Office, which will permit field work in the Brisbane and certain adjacent areas to be performed by a specialized unit, rather than as a separate responsibility of individual sections. It is hoped that this will enable better planning and surveillance in this area. The office is directed by a senior inspector because of the size and significance of the area.

With the formalization of the Division of Specialized Health Services, responsibility for leprosy surveillance has transferred to this Division, together with the service of Dr D. A. Russell, the specialized officer in this field.

Major additional initiatives have been instituted in the fields of drug surveillance and vector control.

The Drugs of Dependence Monitoring System will survey the prescribing and dispensing of Schedule 8 (narcotic) drugs, and give indications on the leakage of drugs from the licit to the illicit scene, as well as drug seeking behaviour by patients, and lax prescribing by medical practitioners.

The Vector Control Unit will monitor the present position regarding the breeding of vector of human disease, particularly mosquitoes such as *Aedes aegypti*, and evaluate control measures in the field. From January, 1984, Dr B. H. Kay was appointed as Director of the unit on a half-time basis. As he still is employed half-time by the Queensland Institute of Medical Research as head, Arthropod-borne disease epidemiology unit, the programmes of these two units will provide a suitable balance between the public health and research, both of importance to the progress of the Vector Control Unit. The unit comprises two entomologists, three health inspectors and funds three personnel attached to the Laboratory of Microbiology and Pathology to facilitate serological surveys and diagnosis.

The Occupational Health Unit has continued to operate under difficulties, due to its limited staff establishment. The resignation of the Industrial Health Inspector and the granting of Dr G. Neville leave to complete the Master of Public Health in Occupational Health at the University of Sydney left the unit with only one technical officer for much of the year. A major departmental review of initiatives in occupational health has been completed, and additional technical staff positions have been added to the establishment.

We once again extend our thanks to the numerous organizations who have co-operated with us during the year. In particular we gratefully acknowledge the assistance of the Government Chemical Laboratory; the Laboratory of Microbiology and Pathology; the Commonwealth Health Laboratories; the Departments of Primary Industries; Local Government and Harbours and Marine; the Queensland Fisheries Services; the Queensland Fish Board; the Commonwealth Department of Health and the Bureau of Customs; and the various local authorities of Queensland.

ENVIRONMENTAL HEALTH UNIT

STAFF AND GENERAL

The environmental health unit is staffed by personnel attached to the unit and support staff allocated from Health and Medical Services establishment.

In general terms the Environmental Health Staff includes:—

Epidemiologist	1
Medical Officer (Environmental and Occupational Health)	1
Director (Vector Control Unit) (Part-time) . .	1
Chief Inspectors	3
Principal Health Inspectors	1
Senior Health Inspectors	6
District Health Inspectors	8
Health Inspectors and Technical Assistants	53
Inspector (Fish Markets)	1
Entomologists	2
Clerk (Classified)	1
Clerk (Unclassified)	7
Administrative Assistants Grade I	4
Administrative Assistants Grade I (Stenographers and typists)	11
Administrative Assistants Grade II	4

Three positions of Technical Assistants (Health Inspection) are vacant due to recent resignations.

One position of District Health Inspector became vacant from the end of the year due to the resignation of the occupant.

Again, a number of new graduates holding an Associate Diploma in Health Surveying from the Queensland Institute of Technology were appointed to positions as Technical Assistants (Health Inspection) during the year. Four Health Inspectors (Div. II) were successful at the examination for promotion to Health Inspector (Div. I) conducted during the year.

A Vector Control Unit was established during the year to research and initiate measures to control and prevent vector-borne diseases.

Dr R. A. Ramm is a member of the Water Quality (Standing) Committee of the National Health and Medical Research Council, the Health Committee on Drugs of Dependence, the Water Quality Council of Queensland, the Metropolitan Works Board, the Inter-departmental Committee on the Chemical Contamination of Foods, the Inter-departmental Committee considering Toxic Wastes Disposal, and the Commonwealth-State Co-ordinating Committee (Mosquito Eradication Campaign).

Dr A. T. C. Bourke has continued as Chairman of the Inter-departmental Salmonella Liaison Committee. He is also a member of the Food Technology Course Assessment Committee, Queensland Agricultural College, the Standards Association of Australia Committee on the Microbiological Examination of Foods, the Inter-departmental Committee on the Prevention of Ciguatera Poisoning in Queensland and deputizing member of the Water Quality Council of Queensland.

Dr B. H. Kay is a member of the Commonwealth-State Co-ordinating Committee (Mosquito Eradication Campaign), the National Health and Medical Research Council Expert Panel on Arboviruses, the World Health Organization Expert Panel on Vector Biology and Control, the World Health Organization Expert Panel for Environmental Management in Vector Control, the Townsville-Thuringowa Vector Biology and Control Committee, the Cairns-Mulgrave-Port Authority Vector Biology and Control Committee, the Contiguous Shires (Tweed, Gold Coast, Albert, Logan, Redlands), Vector Biology and Control Committee, and the Australian Entomological Society (Technical Editor).

Mr W. J. Shields is a member of the Food Standards Committee of the National Health and Medical Research Council, the National Committee on Clearance of Food Labels, the Inter-departmental Committee on the Prevention and Control of Ciguatera, the Salmonella Liaison Committee, the Filled Milk Act Advisory Committee, the Departmental Advisory Committee on Food Standards, the Advisory Body Health Department Convenience Food Factory and is the Queensland Contact Point for the Joint F.A.O./W.H.O Codex Alimentarius Commission.

Mr K. F. Keefer is a member of the Poisons Schedule (Standing) Committee of the National Health and Medical Research Council and the National Therapeutic Goods Committee.

Mr W. J. T. Lane is a member of the Joint Committee constituted under the Sewerage and Water Supply Act, and the Long Term Caravan Residency and Caravan Parks Committee.

Senior Inspector A. Neilson is a member of the Plumbers and Drainers Licensing and Examination Board.

Senior Inspector G. D. Hapgood is a member of the Vector Biology and Control Committee (Townsville).

Inspector J. J. Forbes is a member of the Working Party on Model Food Hygiene Regulations and the Departmental Advisory Committee on Food Standards.

Inspector R. Anderson is a member of the Local Liaison Committee for the Mosquito Eradication Campaign (Townsville).

Inspector P. Falk is a member of the Vector Biology and Control Committee (Cairns).

Mr P. Barker-Hudson is a member of the Vector Biology and Control Committee (Townsville).

Mr R. Piper is a member of the Vector Biology and Control Committee (Cairns).

The position of consulting Leprologist occupied by Dr D. A. Russell was transferred to the Division of Specialised Health Services during the year.

Mr H. J. O'Dwyer, Health Inspector, Div. I, resigned on the 7th October, 1983, after 42 years in the field of health inspection.

Resignations were tendered by one other Health Inspector Division I, two Health Inspectors Division II, and two Technical Assistants (Health Inspection) during the year.

Members of the staff have continued to deliver lectures and address conferences and meetings of various associations and business organizations.

EPIDEMIOLOGY

One of the important functions of the Division is to monitor disease frequency in Queensland by collation and analysis of reports of notifiable diseases submitted by medical practitioners and by the Laboratory of Microbiology and Pathology and the Department of Pathology of the Royal Brisbane Hospital. Investigation and control of outbreaks of illness and the tracing of sources of contamination of water supplies and foods with disease-producing micro-organisms are other vital tasks undertaken by the Division.

NOTIFIABLE DISEASES

Although notification of disease submitted by medical practitioners do not represent the true incidence of disease in the State, they do serve to alert the Division of the presence, prevalence, incidence, location and time distribution of illness. No doubt awareness, interest and the need to await laboratory confirmation of the diagnosis are some of the factors that influence the reporting of disease. The more rarely occurring and clinically interesting conditions are more likely to be notified than the commoner illnesses.

Following the outbreak of dengue fever in 1981, medical practitioners have been encouraged by circular to report all suspected cases of the disease as soon as they present themselves for advice and treatment. Practitioners have also been asked to confirm or refute their diagnoses when laboratory tests become available. By doing so, measures can be instituted by local authorities and other responsible bodies to interrupt transmission. Also the types of dengue fever virus circulating in the communities affected can be closely monitored by the Laboratory of Microbiology and Pathology.

The laboratory reports continue to provide a rich and valuable source of up-to-date information on notifiable diseases which occur in Queensland. It must be borne in mind when examining data published by the Laboratory of Microbiology and Pathology that their figures include information on diseases occurring outside Queensland.

Apart from *The Total Notifications Table*, all tabulated data are a combination of information supplied by both medical practitioners and the two participating laboratories. *The Total Notifications Table* only contains information on notifications received from medical practitioners during the year. The terms, *Metropolitan* and *Extra Metropolitan*, which are used in *The Total Notifications Table*, *The Metropolitan Table* and *The Extra Metropolitan Table*, refer to the following two defined areas:—

(i) The Metropolitan Area represents that part of Brisbane administered by the Brisbane City Council;

(ii) The Extra Metropolitan area comprises all Local Authorities in Queensland except the Brisbane City Council.

Total notifications received from medical practitioners

For ready reference, the diseases in *The Total Notifications Table* are listed in alphabetical order rather than in descending order of total incidences, which was the practice in previous years. An additional column has been added to include the median annual total so that trends showing increases and decreases in disease frequency can be more readily discerned. Tuberculosis and venereal diseases, which are presented and evaluated elsewhere, are not included in the table.

This year epidemic polyarthritis was the most frequently reported disease followed in descending order of frequencies by salmonellosis, rubella, hepatitis B, malaria, hepatitis A, Q. fever and shigellosis. A.I.D.S., anthrax, cholera, diphtheria, filariasis, plague, poliomyelitis, smallpox (which has been eradicated from the world), epidemic typhus (which is louse-born), murine typhus (which is flea-borne and enzootic in Queensland) and yellow fever (which is enzootic in Africa and the New World) were not reported. No cases of anthrax, plague, poliomyelitis, smallpox, epidemic typhus and yellow fever have been notified in the past 8 years.

Significant increases in the notifications of epidemic polyarthritis, hepatitis A, hepatitis B, leptospirosis and shigellosis have occurred since the previous year. There was also a slight increase in the number of notified cases of malaria. Of these, only shigellosis does not exceed the mean annual total. However, all have higher incidences than their respective median annual totals.

Significant reductions in notifications of dengue fever, encephalitis, food poisoning and unspecified (but not epidemic) typhus also took place during the year. Apart from encephalitis, none of these diseases exceeded either their respective mean annual totals or median annual totals.

Temporal distribution of notifiable diseases

The temporal distributions of all notifiable diseases are presented in *The Metropolitan Table* and *The Extra Metropolitan Table*. They are usually based on months of onset. But, when this information is not provided, the dates of laboratory diagnosis are then used since diagnostic tests are generally reported within a month of onset. It should again be stressed that these two tables, as well as those that will be referred to in the remainder of this section of the report, are based on notifications submitted by both medical practitioners and the two participating laboratories.

Epidemic polyarthritis, which reached epidemic proportions, was most prevalent in the extra metropolitan area during the months of January to March. Though there was a significant reduction in dengue fever cases, they still occurred in the extra metropolitan area. The months of greatest activity were April and May. Of the three cases of dengue fever diagnosed in the metropolitan area, two contracted their infections in Sri Lanka and one in Fiji. Both types of hepatitis and salmonellosis occurred throughout the year but, as expected, peaked in the summer months. Shigellosis and leptospirosis were also more common during that period. As data on malaria are presented elsewhere, this disease will not be discussed.

The one case of hydatid disease, which occurred in August, had a brother with a similar disease. Lead poisoning in a six-year-old male was due to melting lead for the preparation of sinkers. The other case was the result of industrial exposure. Melioidosis in a four-year old male Torres Strait Islander, which manifested itself in March, was diagnosed serologically. No predisposing factors were recorded on the notification form. Of the three cases of psitticosis, two were contracted from a recently purchased cockatoo, which was subsequently shown to be infected with the causative micro-organism. The third case occurred in a pet shop owner who had been exposed to a sick bird in his possession, the species of which was not recorded. The one case of tetanus probably stemmed from a splinter in the arm from a chicken shed. Trachoma was diagnosed in a six-year-old male and a 77-year-old male, both residents in the Torres Straits area.

Geographical distribution of gastro-intestinal, arthropod-borne and occupational diseases which are notifiable

These diseases are tabulated in *The Gastro-intestinal Table*, *The Arthropod-borne Diseases Table* and *The Occupational Diseases Table*. No cases of cholera were notified during the year, though an incident, diagnosed in Canberra, will be discussed under a separate heading. Amoebiasis continues to be occasionally diagnosed but cannot be regarded as a major health problem. On the other hand, salmonella continues to be a significant cause of morbidity, the highest rate being recorded in the Far North Statistical Division. Significant rates also occurred in Cairns, Gympie, Charters Towers and Bundaberg. Mount Isa had the highest rate of hepatitis A followed by the Far North Statistical Division and Mackay. The distribution of hepatitis B is difficult to interpret because chronic carriers are probably notified more than once. The Far North Statistical Division, Brisbane and Cairns have apparently the highest rates in the State. Shigellosis was present at a significantly higher level in the Far North Statistical Division than in other parts of the State. The four cases of typhoid were contracted overseas. None was responsible for disseminating the infection in either Queensland or other States of Australia.

As stated previously, epidemic polyarthritis was epidemic during the year and involved communities throughout the State. The highest rate was recorded in Roma. Townsville, Mackay, Dalby, Cairns and the Far North Statistical Division experienced significant levels of infection. Dengue fever, though reduced during the year, did continue to occur. Townsville and Cairns were the main centres of activity. The reduced rates in these two cities was no doubt due to the activities of their respective Health Departments, with the assistance of the Division's Vector Control Unit, to interrupt transmission. The early notification of suspected cases of dengue fever by medical practitioners probably contributed in some measure to the institution of prompt control measures. All 11 cases of scrub typhus and the one case of tick typhus were contracted in the northern part of the State where both infections are enzootic.

Leptospirosis was the most prevalent occupational disease during the year. Most of the cases occurred in Brisbane and Cairns. Q. fever came a close second, Brisbane and Toowoomba having the highest rates. Only two cases of brucellosis were notified during the period covered by this report.

Occupation and sex distributions of the three notifiable occupational diseases

The occupations and sex of those who contracted brucellosis, leptospirosis and Q. fever are displayed in *The Employment Table*. Forty-two per cent of the cases of Q. fever occurred in persons employed in the meat industry whereas only 9.2 per cent were engaged in the farming industry. One infection occurred in a veterinarian. The meat and farming industries claimed approximately 30 per cent of the cases of leptospirosis. Again, one veterinarian contracted the illness. The two cases of brucellosis did not occur in persons known to be engaged in meat handling or farming activities. All three occupational diseases were mainly contracted by males.

Types of encephalitis and meningitis notified

The Neurological Diseases Table lists the types of encephalitis and meningitis notified. Of the four cases of encephalitis, one was due to the Herpes simplex virus and one to the Herpes zoster (chicken pox) virus. Of the 46 cases of meningitis reported, 17 were meningococcal. *Haemophilus influenzae* caused 10 of the infections, *Streptococcus pneumoniae* three, *Staphylococcus aureus* two, *Staphylococcus epidermidis* two, *Cryptococcus neoformans* two, and Influenza B virus two. One case was caused by *Streptococcus salivarius*. Household and close contacts of meningococcal infections, whenever possible, were placed on rifampicin prophylaxis to prevent the risk of direct transmission.

Notification rates

Using laboratory reported notifications of 21 diseases as a base, the notification rates of general practitioners were determined. The data are presented in *The Notification Rate Table*. It is gratifying to note that 73 per cent of the dengue fever cases were reported by medical practitioners. Forty-three per cent of the cases of salmonellosis were notified by doctors whereas only approximately eight per cent of leptospirosis cases were formally reported. Rare and interesting cases, such as typhoid, melioidosis and leprosy, were all notified to the Division.

THE SIXTH CHOLERA INCIDENT

On 30th March, 1983, a 33-year-old carpenter presented to the Casualty Department of the Woden Valley Hospital in Canberra with diarrhoea (Communicable Disease Intelligence Bulletin 84/8). A stool specimen was obtained and he was placed on out-patient treatment to control his diarrhoea. He made an uneventful recovery. *Vibrio cholerae* 01 serotype Inaba was subsequently isolated from his faecal specimen. Inquiries made by Dr S. D. MacLeod, Medical Officer of Health, Capital Territory Health Commission, indicated that the patient probably contracted his infection while on a camping trip in the upper reaches of the Clarke or Burdekin Rivers between Charters Towers and Greenvale. Because of a delay in transmitting information, attempts to isolate the cholera organism from the two rivers were only initiated after the cold weather had set in. Consequently, no isolates were recovered from any of the water samples taken from various points along the upper reaches of the two rivers. However, attempts will again be made to detect the organism at the same points next summer.

CONTAMINATION OF FOOD FROM THE ENVIRONMENT

When the salmonella organism was sporadically detected in samples of food, being processed in two manufacturing plants during the year, investigations were undertaken to determine the source. In both instances the salmonella organism was isolated from the grates of floor drains. Although cockroach infestation was present in both food-processing areas, only cockroaches from the second establishment inspected were collected for bacteriological examination. The salmonella organism was isolated from a batch of six German cockroaches collected from within the insulation of a hot water pipe. These findings stress the importance of maintaining good housekeeping practices and controlling vermin in food-processing premises. Salmonellae can survive and multiply in environments containing food residues, and cockroaches are capable of mechanically transmitting the organism to food during the manufacturing process. The source of contamination in both premises investigated was probably the food-encrusted grates, and the most likely vehicle of dissemination were the cockroaches.

RECURRENT ISOLATED SUBCUTANEOUS NODULES ON THE HANDS AND FEET IN PAINT-SHOP WORKERS AT AN AVIATION CENTRE

A laboratory and environmental investigation of recurrent isolated subcutaneous nodules in three paint-shop workers at an aviation centre was initiated in August, 1983. Extensive laboratory tests conducted on each patient failed to indicate that the condition was a characteristic allergic manifestation.

Samples of material from the ventilation system of the paint shop, together with blood specimens from the three victims and a number of matched controls not exposed to the work environment, have since been sent to Dr P. Austwick at the Cardio-thoracic Institute, University of London, to determine whether exposure to any of the organisms isolated from the ventilation material might be responsible for this condition. Air samples from various parts of the work place were also collected for chemical analysis. These tests are still in progress.

IMMUNIZATION PROGRAMME

During the year, the following vaccines, supplied by the Commonwealth, were distributed by this Division:—

SABIN	10 dose vials	193 830
	20 dose vials	304 920
		498 750

An increase of 146 860 doses distributed over the 1982–1983 figures.

MEASLES/MUMPS	Single dose vials	69 560

An increase of 26 560 doses distributed over the 1983 figures.

RUBELLA	Single dose vials	27 750
	10 dose vials	26 690
		54 440

An increase of 15 822 doses distributed over the 1982–1983 figures.

NOTIFIABLE DISEASES (EXCLUSIVE OF TUBERCULOSIS AND VENEREAL DISEASES) REPORTED BY MEDICAL PRACTITIONERS BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984

(The Total Notifications Table)

Disease	Metro-politan	Extra Metro-politan	Total 1983–84	Total 1982–83	Mean Annual Total 1978–83	Median Annual Total 1978–83
A.I.D.S.	0	0	0	0	..	..
Amoebiasis	5	8	13	11	15.4	13
Ancylostomiasis (Hookworm)	1	6	7	11	35.8	33
Anthrax	0	0	0	0	0.0	0
Brucellosis	1	1	2	0	3.4	4
Cholera	0	0	0	3	1.0	0
Dengue Fever	3	35	38	133	42.6	1
Diarrhoea (in closed institution)	1	2	3	1	17.8	1
Diphtheria	0	0	0	0	1.0	1
Encephalitis	3	3	6	12	8.8	8
Epidemic Polyarthritis (Ross River Fever)	66	453	519	38	17.2	14
Filariasis	0	0	0	2	0.4	0
Food Poisoning (in two or more associated cases)	0	7	7	17	32.5	17
Hepatitis (Type A) (Infective)	81	150	231	163	193.4	173
Hepatitis (Type B) (Serum)	225	88	313	79	69.0	76
Hydatid Disease	1	1	2	0	0.8	0
Lead Poisoning	1	1	2	4	2.2	2
Leprosy	1	11	12	8	7.8	8
Leptospirosis	31	91	122	11	13.4	12
Malaria	58	207	265	239	176.4	192
Melioidosis	0	1	1	3	4.8	5
Meningitis	29	21	50	32	52.4	52
Plague	0	0	0	0	0.0	0
Poliomyelitis	0	0	0	0	0.0	0
Psitticosis (Ornithosis)	1	2	3	0	0.6	0
Puerperal Fever	0	11	11	6	3.4	3
Q. Fever	17	125	142	174	228.6	179
Rubella	98	245	343	11	47.0	29
Salmonellosis	70	322	392	395	267.0	254
Shigellosis	21	46	67	46	82.2	95
Smallpox	0	0	0	0	0.0	0
Staphylococcal or Streptococcal Infection (in nursery)	0	7	7	3	4.2	3
Taeniasis	0	1	1	0	0.2	0
Tetanus	1	2	3	4	3.2	4
Trachoma	0	3	3	3	0.8	0
Typhoid	5	1	6	3	2.0	2
Typhus—						
(1) Epidemic	0	0	0	0	0.0	0
(2) Murine	0	0	0	1	0.2	0
(3) Scrub	2	10	12	6	1.2	0
(4) Tick	0	1	1	2	0.4	0
(5) Type not recorded (but not Epidemic type)	1	0	1	5	1.0	0
Yellow Fever	0	0	0	0	0.0	0

NOTIFIABLE DISEASES (EXCLUSIVE OF TUBERCULOSIS AND VENEREAL DISEASES) BY MONTH OF ONSET OR DIAGNOSIS BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984

(The Metropolitan Table)

Disease	Not Recorded	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	Total
A.I.D.S.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amoebiasis	..	1	..	1	1	..	..	2	..	..	..	..	..	5
Ancylostomiasis (Hookworm)	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brucellosis	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue Fever	..	..	..	1	1	..	..	1	..	..	..	..	..	3
Diarrhoea (in closed institution)	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis	..	..	..	..	..	1	..	..	1	..	..	..	..	2
Epidemic Polyarthritis ("Ross River" Fever)		..	..	..	5	4	5	16	23	10	..	..	..	63
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Food Poisoning (in two or more associated cases)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis (Type A) (Infective)	1	3	6	10	5	13	3	5	10	4	1	5	1	67
Hepatitis (Type B) (Serum)	8	21	5	7	16	9	41	6	21	18	26	20	20	218
Hydatid Disease	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Lead Poisoning	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis	..	3	1	3	3	1	3	2	3	3	7	..	..	29
Malaria	8	2	2	1	2	1	5	5	4	2	4	1	1	38
Melioidosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	1	3	2	3	5	3	1	2	3	4	..	1	..	28
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Psitticosis (Ornithosis)	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Pueperal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Q Fever	..	4	..	..	2	2	1	..	1	2	..	2	..	14
Rubella	..	7	6	16	40	18	1	4	5	..	..	..	..	97
Salmonellosis	2	6	3	1	5	9	4	10	9	8	7	3	..	67
Shingellosis	4	2	2	1	..	..	4	4	4	..	..	..	..	21
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staphylococcal or Streptococcal Infection (in nursery)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis (Tapeworm)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trachoma	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid	..	..	..	..	..	..	2	..	..	1	..	..	..	3
Typhus—														
(1) Epidemic	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(2) Murine	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(3) Scrub	..	..	1	..	..	..	..	1	..	..	..	..	..	2
(4) Tick	..	..	1	..	..	..	..	..	..	..	..	..	..	1
(5) Type not recorded (but *not* Epidemic type)	..	..		..	..	..	..	1	..	..	..	..	..	1
Yellow Fever	..	..	.	..	..	..	..	..	..	..	..	..	..	..

NOTIFIABLE DISEASES (EXCLUSIVE OF TUBERCULOSIS AND VENEREAL DISEASES) BY MONTH OF ONSET OR DIAGNOSIS BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984 FROM THE EXTRA METROPOLITAN AREA

(The Extra-Metropolitan Table)

Disease	Not Recorded	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	Total
A.I.D.S.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amoebiasis	3	1	..	1	1	..	..	..	..	..	..	..	1	7
Ancylostomiasis (Hookworm)	5	..	..	..	1	..	..	..	..	..	..	..	..	6
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brucellosis	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue Fever	4	2	..	1	1	1	4	1	3	2	7	7	1	34
Diarrhoea (in closed institution)	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis	..	..	1	..	..	..	..	..	..	..	1	..	..	2
Epidemic Polyarthritis ("Ross River" Fever)	7	21	11	6	10	11	14	55	174	106	1	1	..	417
Filariasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Food Poisoning (in two or more associated cases)	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Hepatitis (Type A) (Infective)	5	11	7	16	5	6	8	13	14	21	13	15	7	141
Hepatitis (Type B) (Serum)	12	3	6	5	6	1	6	3	4	6	10	12	10	84
Hydatid Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Leprosy	5	1	2	..	1	..	1	..	..	..	..	..	..	10
Leptospirosis	..	4	4	5	5	`10	5	3	15	14	17	..	..	82
Malaria	89	7	6	5	4	5	5	13	7	15	6	20	4	186
Melioidosis	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Meningitis	1	2	4	5	..	4	..	..	..	..	..	2	..	18
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Psitticosis (Ornithosis)	..	..	..	..	..	..	2	..	..	..	..	..	..	2
Puerperal Fever	..	..	..	1	1	4	..	1	..	2	1	..	..	10
Q Fever	1	7	5	8	7	5	16	9	13	13	8	3	..	95
Rubella	4	6	24	39	80	46	4	20	18	2	..	..	..	243
Salmonellosis	38	25	15	14	22	16	24	25	41	26	21	18	8	293
Shingellosis	5	4	1	..	8	1	3	2	3	4	5	1	1	38
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staphylococcal or Streptococcal Infection (in nursery)	..	..	..	1	2	2	1	1	..	..	..	..	..	7
Taeniasis (Tapeworm)	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Tetanus	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Trachoma	..	..	1	1	..	..	..	..	..	..	..	..	..	2
Typhoid	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Typhus—														
(1) Epidemic	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(2) Murine	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(3) Scrub	..	4	2	1	..	..	..	..	..	..	1	1	..	9
(4) Tick	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(5) Type not recorded (but *not* Epidemic type)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..

GEOGRAPHIC OCCURRENCE OF NOTIFIABLE ARTHROPOD-BORNE DISEASES BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984 (RATES PER 10 000 OF THE LOCALITY POPULATIONS)

(The Arthropod-borne Disease Table)

Local Authority	Dengue		Epidemic Poly-arthritis		Filariasis		Malaria		Murine Typhus		Scrub Typhus		Tick Typhus		Non-Epidemic Typhus (type not recorded)	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Brisbane	3	<0.1	63	0.9	..	..	38	0.5	..	..	2	<0.1	..	..	1	<0.1
Bundaberg	..	..	2	0.6	..	..	..	..	..	..	..	..	..	..	..	..
Cairns	4	1.0	21	5.7	..	..	11	3.0	..	..	4	1.0	1	0.3	..	..
Charters Towers*	..	..	2	2.7	..	..	4	5.4	..	..	..	..	..	..	..	..
Dalby*	..	..	6	6.3	..	..	..	..	..	..	..	..	..	..	..	..
Gladstone	1	0.4	4	1.6	..	..	..	..	..	..	..	..	..	..	..	..
Gold Coast	..	..	7	0.7	..	..	7	0.7	..	..	..	..	..	..	..	..
Gympie	..	..	2	1.8	..	..	1	0.9	..	..	..	..	..	..	..	..
Hervey Bay	..	..	..	..	..	..	2	1.6	..	..	..	..	..	..	..	..
Ipswich	1	0.1	10	1.4	..	..	..	..	..	..	..	..	..	..	..	..
Logan	..	..	..	..	..	..	1	0.1	..	..	..	..	..	..	..	..
Mackay	1	0.5	15	7.1	..	..	3	1.4	..	..	..	..	..	..	..	..
Maryborough	..	..	2	0.9	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	..	..	5	1.9	..	..	..	..	..	..	..	..	..	..	..	..
Redcliffe		..	1	0.2	..	..	1	0.2	..	..	..	..	..	..	..	..
Rockhampton		..	15	2.7	..	..	3	0 5	..	..	..	..	..	..	..	..
Roma*	..	..	21	34.4	..	..	..	..	..	..	..	..	..	..	..	..
Toowoomba	1	0.1	7	1.0		..	3	0.4	..	..	..	..	..	..	..	..
Townsville	13	1.6	60	7.2		..	9	1 1	..	..	..	..	..	..	..	..
Warwick*	..	..	..	.	.	..	..	..	..	..	..	..	..	..	..	..
Far North†	9	0.9	47	4.5	..	..	123	11.7	..	..	3	0.3	..	..	..	..
Other Local Authorities	4	<0.1	190	2.5		..	18	0.2	..	..	2	<0.1	..	..	..	..
Total	37	0.2	480	2.0	..	..	224	1.0	..	..	11	<0.1	1	<0.1	1	<0.1

* Population less than 10 000 but greater than 5 000.

† Does not take into account the movement of people between the Torres Strait area and Papua New Guinea, and excludes Cairns

GEOGRAPHIC OCCURRENCE OF NOTIFIABLE GASTRO-INTESTINAL DISEASES AND HEPATITIS BETWEEN 1st JULY, 1984 AND 30th JUNE, 1984

(RATES PER 10 000 OF THE LOCALITY POPULATIONS)
(The Gastro-intestinal Disease Table)

Local Authority	Amoebiasis		Cholera		Hepatitis (Type A)		Hepatitis (Type B)		Salmonellosis		Shigellosis		Typhoid	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Brisbane	5	<0.1	..	..	67	0.9	218	3.0	67	0.9	21	0.3	3	<0.1
Bundaberg	..	..	..	..	7	1.9	11	3.0	13	3.5	3	0.8	..	..
Cairns	..	..	..	..	7	1.9	11	3.0	13	3.5	3	0.8	..	..
Charters Towers*	..	..	..	..	1	1.4	..	..	2	2.7	..	..	..	..
Dalby*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gladstone	..	..	..	..	..	..	2	0.8	2	0.8	..	..	..	..
Gold Coast	..	..	..	..	3	0.3	5	0.5	3	0.3	..	..	..	..
Gympie	..	..	..	..	..	..	..	..	4	3.4	..	..	..	..
Hervey Bay	..	..	..	..	2	1.6	..	..	1	0.8	..	..	..	..
Ipswich	..	..	..	..	4	0.6	1	0.1	8	1.1	1	0.1	..	..
Logan	..	..	..	..	2	0.2	1	0.1	9	1.0	..	..	..	..
Mackay	..	..	..	..	6	2.8	1	0.5	3	1.4	..	..	..	..
Maryborough	..	..	..	..	1	0.4	2	0.9	1	0.4	..	..	..	..
Mount Isa	..	..	..	..	18	7.0	2	0.8	3	1.2	1	0.4	..	..
Redcliffe	..	..	..	..	1	0.2	2	0.5	4	0.9	..	..	..	..
Rockhampton	1	0.2	..	..	4	0.7	..	..	9	1.6	..	..	..	..
Roma*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Toowoomba	..	..	..	..	..	..	1	0.1	4	0.5	..	..	..	..
Townsville	1	0.1	..	..	11	1.3	4	0.5	9	1.1	..	..	..	..
Warwick*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Far North†	1	0.1	..	..	30	2.9	36	3.4	99	9.5	20	1.9	..	..
Other Local Authorities	4	<0.1	..	..	50	0.6	15	0.2	112	1.5	13	0.2	1	<0.1
Total	12	<0.1	..	..	208	0.9	302	1.3	360	1.5	59	0.3	4	<0.1

* Population less than 10 000 but greater than 5 000.

† Does not take into account the movement of people between the Torres Strait area and Papua New Guinea, and excludes Cairns.

GEOGRAPHIC OCCURRENCE OF NOTIFIABLE OCCUPATIONAL DISEASES BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984

(Rates per 10 000 of the Locality Populations)
(The Occupational Disease Table)

Local Authority	Brucellosis		Leptospirosis		Q. Fever	
Brisbane	1	<0.1	29	0.4	14	0.2
Bundaberg	..	..	1	0.3	..	..
Cairns	..	..	20	5.4	4	1.0
Charters Towers*	..	..	..	..	..	..
Dalby*	..	..	..	..	1	1.0
Gladstone	..	..	..	..	..	..
Gold Coast	..	..	1	0.1	..	..
Gympie	..	..	1	0.9	..	..
Hervey Bay	..	..	..	..	..	..
Ipswich	..	..	5	0.7	8	1.1
Logan	..	..	..	..	1	0.1
Mackay	..	..	2	0.9	2	0.9
Maryborough	..	..	1	0.4	1	0.4
Mount Isa	..	..	..	..	..	..
Redcliffe	..	..	1	0.2	..	..
Rockhampton	..	..	5	0.9	5	0.9
Roma*	..	..	1	1.6	3	4.9
Toowoomba	..	..	9	1.2	14	1.9
Townsville	..	..	6	0.7	7	0.8
Warwick*	..	..	2	2.1	2	2.1
Far North†	..	..	7	0.7	7	0.7
Other Local Authorities	1	<0.1	20	0.3	40	0.5
Total	2	<0.1	111	0.5	109	0.5

* Population less than 10 000 but greater than 5 000.

† Does not take into account the movement of people between the Torres Strait area and Papua New Guinea, and excludes Cairns.

SEX DISTRIBUTION BY OCCUPATION OF THE THREE NOTIFIABLE OCCUPATIONAL DISEASES

1st JULY, 1983 TO 30th JUNE, 1984
(The Employment Table)

Occupation	Brucellosis				Leptospirosis				Q. Fever			
			Total				Total				Total	
	Male	Female	No.	%	Male	Female	No.	%	Male	Female	No.	%
Employed in the Meat Industry	..	..	..	..	12	..	12	10.8	39	7	46	42.2
Employed in the Farming Industry	..	..	..	..	19	3	22	19.8	10	..	10	9.2
Veterinarian	..	..	..	..	1	..	1	0.9	1	..	1	0.9
Nurse	..	..	..	..	..	1	1	0.9	..	1	1	0.9
Housewife	..	..	..	..	..	1	1	0.9	..	..	..	..
Unemployed/Pensioner/Retired	..	..	..	..	..	..	..	..	1	..	1	0.9
Other Occupations	1	..	1	50.0	7	1	8	7.2	11	3	14	12.8
Not recorded	1	..	1	50.0	59	7	66	59.5	33	3	36	33.0
Total	2	..	2	100.0	98	13	111	100.0	95	14	109	100.0

THE TYPES OF MENINGITIS AND ENCEPHALITIS WHICH OCCURRED BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984
(The Neurological Diseases Table)

Disease	Type	Number of Cases
Encephalitis	Herpes simplex	1
	Herpes zoster	1
	"Viral"	1
	Not recorded	1
	Total Cases	4
Meningitis	Cryptococcal	2
	Haemophilus	10
	Influenza type B	2
	Klebsiella	1
	Meningococcal	17
	Pneumococcal	3
	Staphylococcal (*Staph. aureus*)	2
	Staphylococcal (*Staph. epidermidis*)	2
	Streptococcal (*Strep. salivarius*)	1
	"Viral'	5
	Not recorded	1
	Total Cases	46

PERCENTAGE OF LABORATORY REPORTED CASES OF 21 NOTIFIABLE DISEASES WHICH WERE NOTIFIED BY MEDICAL PRACTITIONERS BETWEEN 1st JULY, 1983 AND 30th JUNE, 1984
(The Notification Rate Table)

Disease	Reported by laboratories only	Reported by both laboratories and medical practitioners	Total	Percentage of laboratory-reported cases notified by medical practitioners
Amoebiasis	5	0	5	0.0
Ancylostomiasis	0	1	1	100.0
Brucellosis	2	0	2	0.0
Dengue Fever	4	11	15	73.3
Encephalitis	2	0	2	0.0
Epidemic Polyarthritis	371	30	401	7.5
Hepatitis A	77	4	81	5.0
Hepatitis B	223	17	240	7.1
Hydatid Disease	1	0	1	0.0
Leprosy	0	1	1	100.0
Leptospirosis	94	8	102	7.8
Melioidosis	0	1	1	100.0
Meningitis	21	4	25	16.0
Psitticosis	1	0	1	0.0
Q. Fever	92	8	100	8.0
Salmonellosis	43	33	76	43.4
Rubella	316	2	318	0.6
Shigellosis	8	12	20	60.0
Typhus (Scrub)	7	1	8	12.5
Typhus (Tick)	1	0	1	0.0
Typhoid	0	2	2	100.0

DRUGS AND POISONS SECTION

LEGISLATION

Three amendments were made to The Poisons Regulations of 1973. Included in these amendments was the provision placing greater restrictions on ethylene dibromide, a fumigant widely used in primary industry, as well as in the fumigation of fruit to kill the larvae of the fruit fly.

DRUGS OF DEPENDENCE UNIT

This unit has done excellent work since its formation. It has been hampered by the small staff which the existing resources of this division were able to allocate to it.

Advantage has been taken of the expanded community health programme to plan for additional staff to be employed. This plan envisages the following additional staff:—

- Pharmacist—Cairns—to assist in the dispensing of methadone syrup as well as counselling addicts. The role of counsellor is seen as vital in every methadone programme.
- Welfare Officer—Brisbane—to assist in the management of addicts and the counselling of persons who are misusing therapeutic drugs.
- Health Inspectors—two stationed in Brisbane, one stationed at the Gold Coast. These officers will be acting on data obtained from the computer as well as information received from various sources in an effort to reduce the quantity of therapeutic drugs which find their way to the illegal scene.

Addicts

The number of addicts registered on the methadone programme again increased. As at 30th June the total was 1 094 compared with 854 last year. Although this is the number officially registered, it is anticipated the actual number of addicts receiving methadone will be appreciably less.

The guidelines for registration of addicts on the methadone programme are currently being reviewed in conjunction with officers from the Division of Alcohol and Drug Dependence Service. This review together with the computerization of prescriptions will allow an accurate tally of addicts actually receiving methadone through the methadone programme.

A methadone programme has operated in Cairns during this year. This has been possible through the good will of the consortium of pharmacists who operate the Day and Night Pharmacy and its manager.

The following tables illustrate the addicts receiving methadone drug treatment.

Dangerous Drugs

The effectiveness of the controls placed on Dilaudid is seen in the significant decrease in its use. The increase in the use of methadone gives cause for concern. Increased surveillance will be placed on the prescribing of this drug.

ADDICT DISTRIBUTION AS PERCENTAGE PER CENTRE

Centre	Male	Female
Brisbane	56.29	58.30
Gold Coast	9.80	11.22
Sunshine Coast	8.19	9.26
Mackay	2.63	1.46
Townsville	1.90	0.98
Cairns	13.89	13.90
Other	7.30	4.88
	100.00%	100.00%

ADDICT AGE DISTRIBUTION AS PERCENTAGE

Age	Male	Female
0–14 years	0.00	0.00
15–19 years	2.34	8.54
20–24 years	28.07	45.12
25–29 years	46.92	31.71
30–34 years	17.84	8.78
35–39 years	4.39	4.39
40+ years	0.44	1.46
	100.00%	100.00%

Tablet	Year ending 31-12-82	Relationship to Previous Year	Year Ending 31.12.83	Relationship to Previous Year
Palfium	90 240	1% increase	65 540	27% decrease
Dilaudid	48 830	79% increase	25 770	47% decrease
Methadone 5 mg	201 920	8% decrease	244 440	21% increase
Methadone 10 mg	217 020	22% increase	258 560	19% increase
Percodan	256 020	47% increase	317 900	24% increase

Prescriptions

Computerized analysis of cancelled prescriptions for dangerous drugs commenced on 1st December, 1983. This system is the first of its kind in the Commonwealth. The system monitors the movement of these drugs at retail level and so detects abnormal behaviour of prescribers, pharmacists or patients in regard to these drugs. As the data bank grows it will be possible to respond quickly to enquiries from medical practitioners and pharmacists in regard to prescriptions received for specific patients. In addition, the system makes available information which can identify overall trends and problems. After several months of operation the results are indeed pleasing.

Forgeries

Some 71 forgeries were detected during the year, a fall of 39 on the previous year. A total of 53 reports were received of script pads or forms having been stolen from medical practitioners. In many cases, when a few forms were stolen from a pad, the practitioner concerned was unaware of the loss until contacted regarding the forgery.

BREAKING AND ENTERING

The following table illustrates the number of cases of breaking and entering which have been reported to the Department during the year. These numbers show a decrease over last year's figures when the numbers were 43 and 44.

	Brisbane	Country
Pharmacies	34	35
Medical Practitioners	3	2
Hospital Dispensaries . .	. .	. .
Drug Wholesalers	1	. .
Totals	38	37

INSPECTION OF PHARMACIES, HOSPITALS, ETC.

The rate of routine inspections of pharmacies and hospitals in the Brisbane area has improved since the establishment of the Brisbane District Office. However, because of various factors, the ideal rate of at least a yearly inspection has not been achieved. The inspection rate in country districts is satisfactory.

THERAPEUTIC GOODS MANUFACTURERS

During the year one company completed construction of premises and has now begun the manufacture of therapeutic goods, whilst another Queensland based company, new to the manufacturing of therapeutic goods, has recently completed construction of premises and will begin production in the new financial year.

LABELLING AND PACKAGING OF DRUGS AND POISONS

Routine examination of packaging and labelling of poisons and therapeutic substances is carried out to ensure compliance with the Poisons Regulations of 1973 and the Therapeutic Goods and Other Drugs Regulations 1982.

The problem reported last year in regard to the failure of some child-resistant closures when used on containers of hydrocarbon solvents has still not been solved. Work is continuing.

AERIAL SPRAYING

The application of chemicals via aerial spraying is a cause for concern. Many complaints were received and investigated during the year by the section.

Even when analytical results show chemicals on the complainant's property, it is often difficult to prove that the presence of chemicals is the result of a specific application. Two summonses were issued during the year against pilots for applying a chemical to an area where they did not have the approval of the occupier. Further incidents have been referred to the Solicitor-General for the institution of legal proceedings.

CHLORDIMEFORM

Chlordimeform, a pesticide, is considered essential for the success of cotton growing in this State. It is controlled under the Poisons Regulations of 1973 and restricted to application to cotton by persons holding an authority issued by the Director-General. Chlordimeform is mainly by aerial application.

Surveillance of the degree of exposure of loaders, mixers and pilots is by means of urine samples.

Where high readings have been encountered, the following action has been taken:—

• Removed from exposure for the remainder of the season	5
• Removed from exposure for one week	5
• Removed from exposure until re-sampled	6
• Warnings given	8
• Dismissed by employer or ceased employment	4

SAMPLING

Two hundred and seventy-nine chemical samples and six bacteriological specimens were submitted for assay. Ninety-five of these were samples taken to check for poison residues after spraying has been carried out on adjoining properties. The remaining samples covered a wide range of specimens including suspect dog baits, toiletries, vitamins, medicines, pencils and pesticides.

PEST CONTROL OPERATORS

The number of operators licensed has increased to 999 which is an increase of 36 over last year. Included in this total are 236 employees of local authorities.

Two persons were convicted and fined for operating as pest control operators whilst not licensed.

Forty-seven samples of pesticides were obtained from operators. Twenty-five were found to conform to the stated type and strength of pesticide. Twelve were found to be below the stated strength or contained traces of other pesticides. In these instances a warning letter was considered to be adequate. The results of the remaining 10 samples are awaited.

Advantage has been taken of the Correspondence Course in Pest Control being conducted by the Technical Correspondence School, Department of Education. As from 1st January, 1984, operators issued with a restricted licence will not be eligible for an open licence until they have successfully completed this 12-month course.

DESTRUCTION OF DRUGS

Officers of the Drugs and Poisons Section in country areas have continued to supervise the destruction of cannabis and implements for its use, which have been forfeited to the Crown. The number of packages destroyed this year was 5 222 which is a significant increase on last year's total of 3 827.

PROSECUTIONS 1983–1984

The results of prosecutions concluded are shown in the following table.

Court	Offence	Fine	Court Costs	Other Costs
Ipswich	Unauthorized possession of a restricted drug	$50.00	$24.65	$91.00
Caboolture	Carrying out Pest Control whilst not being licensed	$200.00	$24.65	
Rockhampton	Unauthorized possession of a restricted drug	$150.00	$24.65	$91.00
Bundaberg	Advertisement for a therapeutic good which contained a prohibited statement	$275.00	$24.65	
Mackay	Sale of a restricted drug without a prescription	$400.00	$24.65	
Brisbane	Carrying out Pest Control whilst not being licensed	$150.00	$24.65	$30.00
Toowoomba	Stating a false name to a Medical Practitioner	$150.00	$25.67	
Brisbane	Uttering an altered prescription for a dangerous drug	$75.00	$24.65	
Brisbane	Stating a false name to a Medical Practitioner	$25.00	$24.65	
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$150.00	$24.65	
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$10.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$10.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$10.00		
Southport	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$125.00	$24.65	
Rockhampton	Selling by wholesale, a schedule 2 poison whilst not being licensed so to do	Lost on Appeal to District Court		
Springsure	Selling a restricted drug whilst not being authorized so to do	$75.00	$28.00	$364.00
Southport	Failure to store dangerous drugs in the correct manner	$100.00	$28.00	
Southport	Failure to account to an Inspector for two quantities of dangerous drugs	$150.00		
Mackay	Sale of a poison, not labelled correctly	$80.00	$28.00	
Southport	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$150.00	$28.00	
Southport	Stating a false address to a Medical Practitioner	$150.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Brisbane	Stating a false name to a Medical Practitioner	$200.00	$28.00	$50.00
Southport	Failure to advise Medical Practitioner of scripts for dangerous drugs received within two months	$100.00	$28.00	
Southport	Stating a false address to a Medical Practitioner	$100.00		
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		

Court	Offence	Fine	Court Costs	Other Costs
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Gympie	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$100.00		
Nambour	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$250.00	$24.00	
Nambour	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$250.00		
Nambour	Failure to advise Medical Practitioner of scripts for dangerous drugs received	$250.00		
	Total	$5,035.00	$464.17	$626.00

SECTION OF FOOD SUPERVISION

Throughout Queensland during the 1983–84 fiscal year, State Health Inspectors acting under the provisions of the Food Act have carried out a programme of surveillance of foods manufactured, packed or offered for sale, with the aim of maintaining as far as is practicable for consumers, a food supply which complies with standards prescribing compositional and labelling requirements and which is safe for human consumption.

Foods produced in Australia and also those imported from overseas countries have been included in this surveillance programme, which must operate as effectively as possible within the limitations of budgetary and staffing constraints. The programme covered the inspection and sampling of foodstuffs, food containers, packaging materials, utensils and apparatus, the checking of labels and advertisements, the assessment of foods damaged from any cause whatsoever, the seizure and destruction of unacceptable foods, the recall from the marketplace of hazardous foods, the carrying out of investigations of cases of food poisoning and into the contamination of foods microbiologically and with toxins, poisonous metals, pesticides and foreign matter.

Under the Food Act, Local Authority Health Surveyors are responsible for the enforcement of structural and hygiene standards in food establishments and the combined activities of the State officers and the Local Government officers are designed to ensure the overall safety of food for human consumption.

FOOD LEGISLATION

Eleven amendments were made to the *Food Act* 1981 to make the intention of various sections of the Act more apparent and to rectify omissions insofar as the administration of the Act is concerned.

Twenty-eight amendments were made to the Food Standards Regulations 1982 in accordance with the recommendations of the National Health and Medical Research Council (N.H. & M.R.C.).

The administration of food legislation in Australia is the responsibility of each individual State and Territory. There is no single authority responsibe for food legislation, and the involvement of the N.H. & M.R.C. in the formulation of food standards largely stems from efforts to achieve uniformity of food legislation throughout Australia. The N.H. & M.R.C. is not a legislative body. However it has, through its specialist food committees, been responsible for the development of food standards and the evaluation of food additives in Australia since 1953.

The formulation of food standards involves extensive consultation between the Food Standards Committee of the N.H. & M.R.C., State and Territory Departments of Health and other appropriate Government Departments, industry, consumers, research organisations, other interested bodies and other relevant committees of the N.H. & M.R.C. When formulating food standards, the Food Standards Committee also takes due cognizance of overseas food standards and of the Recommended International Standards of the FAO/WHO Codex Alimentarius Commission. Once approved by the N.H. & M.R.C., food standards are recommended to the Australian States and Territories for adoption into their respective food legislations.

All proposed new and revised food standards submitted as part of the formulation process to the States and Territories by the Food Standards Committee of the N.H. & M.R.C. during the year were examined by the Queensland Health Department's Advisory Committee on Food Standards and comments and recommendations thereon were returned to the Food Standards Committee of the N.H. & M.R.C. for consideration in the preparation of final drafts for submission to the N.H & M.R.C. for approval.

The Chief Inspector of Foods is a member of the Food Standards Committee of the N.H. & M.R.C. and of the National Clearance Committee on Food Labels and attended two of the three meetings of each Committee held in Canberra during the year. One meeting of each Committee was attended by the Senior Inspector of Foods acting as a proxy for the Chief Inspector. An officer, who is the Queensland representative on the Working Party responsible for the development of Model Food Hygiene Regulations under the Model Food Act, attended the one five day session of that Working Party held in Canberra during the year. It is proposed that the Model Food Hygiene Regulations, when finally completed, approved and recommended for adoption by the N.H. & M.R.C., will be taken up by Queensland in line with this State's adoption of the provisions of the Model Food Act and the Model Food Standards Regulations.

The Senior Inspector of Foods and an officer engaged in the drafting of food legislation presented a half-day workshop session on the practical application of the powers of Local Government Health Surveyors under the Food Act at the Annual Conference of the Institute of Health Surveyors held at the City of Gold Coast. The Senior Inspector of Foods lectured the National Nutritional Foods Association of Australia on the provisions of the Food Act and the Food Standards Regulations and a lecture on the labelling provisions of the Act and the regulations was presented by the Chief Inspector of Foods to the Annual Conference of the Australian Dairy Institute.

FOOD SAMPLING AND FOOD LABELLING

During the year, a total of 8,596 samples of foods, packaging materials and containers were obtained by officers authorized under the Food Act. The majority of these samples were submitted to the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology to determine compliance with prescribed chemical and microbiological standards, to check claims made in labels and advertisements and to assess levels of contamination with toxic metals, pesticides, aflatoxins and pathogenic organisms. Samples obtained to check compliance with the labelling provisions of the Food Act and the Food Standards Regulations were retained by officers and not submitted to the laboratories. The majority of prosecutions instituted during the year arose from this food sampling programme. Details of those samples submitted to the laboratories for examination are given in the respective reports of the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology.

Officers of the Food Section conducted a food sampling survey for the N.H. & M.R.C. as part of an on-going Australia wide assessment of the levels of noxious substances present in the nation's food supply. The samples were forwarded to Sydney for analysis by the Australian Government Chemical Laboratory and sample numbers are not included in the abovementioned total.

The Australian Food Industry and importers of foods from overseas seem to have accepted the fact that Queensland has adopted into law and is now enforcing the provisions of the Model Food Act and the Model Food Standards Regulations and have now become very active in moving to comply with the labelling provisions of that Act and its regulations, designated in Queensland as the *Food Act* 1981 and the Food Standards Regulations 1982. Requests for advice and for the examination of proposed new or revised labels from all over Australia, from importers of food and from countries exporting food for sale in Queensland, increased dramatically this year and have placed a heavy strain on officers and their support facilities available to meet the requests. From the consumer viewpoint, it has become most apparent from enquiries and complaints received that there is a growing and enlightened interest in the information provided and the claims made about foods in labels and advertisements.

Details of prosecutions for failure to comply with labelling provisions are included in the accompanying table of prosecutions for the year.

COMPLAINTS

Throughout the State, 1,492 complaints about food quality, misleading labelling and advertising, and food packaging were received and investigated by State Health Inspectors and a number of prosecutions resulted from these investigations.

Many of the complaints concerned the finding by consumers of foreign matter in food which they had purchased. The types of foreign matter found included drugs, sand, gravel, garden slugs, blowflies and houseflies, cockroaches, pieces of plastic, stones, strips of metal, fragments of glass, rodent excreta, pieces of wood, shotgun pellets, insect remains, maggots, cardboard, string, carbon water filter particles, even a spoon in a bottle of cream and a rabbit's paw in a bag of frozen peas.

Following the receipt of complaints of people becoming ill after consuming fish, mainly mackerel, 18 episodes of ciguatera or fish poisoning, involving 66 people, were investigated.

FOODS CONDEMNED AND SEIZED

State Health Inspectors witnessed the destruction of 67 tonnes 53 kilograms by weight plus 12,810 litres by volume plus 230,691 packages of unspecified weights of assorted foods throughout the State. These quantities consisted of foods which had been examined and certified as unfit for human consumption; foods which had been seized during investigations; foods which were forfeited by Courts to the Crown in relation to prosecutions for breaches of the Food Act; foods which had been recalled from the market place because they were contaminated or deteriorated.

In addition to the above quantities, Inspectors working at and from the Brisbane Fish Markets and at District Offices throughout the State condemned and destroyed 26 tonnes 502 kilograms of assorted seafoods plus 8,417 crabs which were considered to be unfit for human consumption.

Batches of foods recalled from the market place during the year included jam contaminated with glass, imported home brewing yeast contaminated with a pathogenic organism, imported baby clams with a high cadmium content, mixed dried fruit contaminated with glass, sugar contaminated with glass, imported lasagna contaminated with a pathogenic organism, fruit juices in bottles which were exploding rendering the product dangerous, artificial sweetener tablets deliberately contaminated with foreign matter consisting of drugs, sand and gravel, and dried instant meals contaminated with pathogenic organisms.

Acting under the provisions of the Food Act, the Director-General of Health and Medical Services forbade by order the production of food at the Queensland factory which had manufactured the dried instant meals contaminated with pathogenic organisms until he was satisfied that the premises and production plant had been effectively sanitised. This having been accomplished over a period of four weeks, the order was revoked and production of food at the factory was again permitted.

PROSECUTIONS 1983–84

Brief details of prosecutions concluded during the year are set out in the accompanying table. Of a total of 274 prosecutions, 265 were successfully concluded. Decisions were given against the Crown in four of these matters and five were withdrawn. A further 78 prosecutions based on investigations carried out during the year had not been dealt with by the Courts at the close of the 1983–84 year. The following is a summary of the prosecutions listed in the table:—

Seafoods

Sale as "Crab Claws" of an imported seafood made in imitation of a Crab Claw resulted in two prosecutions; one for selling seafood not of the nature demanded by the purchaser and one for falsely describing a seafood made from a mixture of fish and crab meat as a Crabs Claw. In the one prosecution concluded in regard to fish species substitution, the decision was given against the Crown. The Queensland Health Department's campaign to wipe out the fraudulent practice of misleading consumers in regard to the species of fish offered for sale to them appears to be having the desired effect in reducing the incidence of this malpractice.

Meat and Meat Products

All but one of the 129 prosecutions concluded against manufacturers and vendors of these products were successful and in that one case the Crown withdrew. Thirty-three of the charges concerned the false designation of meat products in relation to the species of meat contained therein; 79 were in relation to failure to comply with prescribed standards covering preservative levels, minimum meat content levels and maximum fat content levels; one concerned false advertising and one charge was in relation to inadequate labelling of a packaged product.

In this area also, the Health Department's campaign against meat species substitution appears to be having the desired effect. In the 1982–83 year, 60 prosecutions were concluded in relation to this practice whilst in the 1983–84 year, 33 were concluded.

Flour and Bakery Products

Seventy-four prosecutions were concluded against manufacturers of these foods. Forty-seven were in relation to bread which did not comply with the prescribed standard. In one of these cases the Crown withdrew. Eleven were in relation to meat pies which were deficient in meat content and 16 concerned failure to label pre-packed bread with a date-mark or a statement of ingredients. The Crown withdrew in one labelling matter.

The types of bread which failed to meet prescribed standards were in the main wholemeal bread and milk bread in that the wholemeal breads were markedly deficient in wholemeal content and milk breads in non-fat milk solids content.

Liquor

Eight prosecutions were concluded against liquor sellers, six being for the sale of spirits not complying with prescribed standards, one for not denaturing waste beer to ensure that it could not be sold and one in relation to the labelling of wine packed on the premises.

Fruit Juices/Drinks/Cordials

Of the 12 prosecutions concluded during the year against manufacturers of these products, 11 of the charges concerned failure to comply with prescribed standards and the beverages were orange juice (4), fruit juice drink (1), fruit drinks (3), and cordials (3). In one of these cases, the decision was given against the Crown and was in relation to a deficiency of vitamin C in orange juice. One manufacturer was prosecuted for making a false claim about the vitamin C content of his orange juice on the label of the product.

Dairy Products

Twelve prosecutions of producers of dairy products were concluded and concerned the sale of milk deficient in milk fat (1), cottage cheese containing preservative (2), milk adulterated with water (1), skim milk containing an excessive amount of fat (1), goat milk not complying with the microbiological standard for goat milk (1) and failure to label yoghurts and flavoured milks with statement of ingredients (6).

Miscellaneous

There were 36 prosecutions in this area and of these the Crown withdrew in regard to two cases dealing with foreign matter in food and decisions were given against the Crown in one case involving alleged obstruction of an officer and another in relation to the sale of food containing foreign matter.

Nineteen of the prosecutions concerned the sale of food containing foreign matter, and the nature of the foreign matter is described under the heading "Complaints" in this report.

Five vendors of food were prosecuted for obscuring or altering use-by date marks on food in order to misrepresent the state of freshness of the food and one egg producer was prosecuted for failing to date-mark cartons of eggs.

There were eight prosecutions dealing with the sale of imported preserved fruits which did not comply with the prescribed standard (4) and which were labelled with false statements of ingredients (4).

Other prosecutions were:—
Refusal to sell a sample to an officer (1);
Obstruction of an officer (1);
Making a false statement to an officer (1).

PROSECUTIONS 1983–84

Court	Offence	Anal. Fees	Fine	Court Costs	Prof. Costs
		$	$	$	$
Aramac	Sale of milk bread deficient in non-fat milk solids	91.00	130.00	24.65	
	Sale of milk bread deficient in non-fat milk solids	101.00	200.00	28.00	
	Sale of pork sausages containing other meat species	91.00	50.00	28.00	
Ayr	Sale of whisky not complying with standard	91.00	200.00	12.32	
	Sale of rum not complying with standard	91.00	200.00	12.32	
Babinda	Sale of beef sausages containing other meat species	91.00	250.00	28.00	
Barcaldine	Sale of milk deficient in fat	101.00	50.00	28.00	
Beenleigh	Sale of milk bread deficient in non-fat milk solids	91.00	150.00	24.65	
	Sale of sausages containing excess preservative	91.00	125.00	24.65	
	Sale of minced meat containing preservative	91.00	250.00	28.00	
Biloela	Sale of milk bread not date marked	..	150.00	14.00	
	Sale of wholemeal bread not date marked	..	150.00	14.00	
Brisbane	Sale of minced meat containing preservative	91.00	250.00	24.65	
	Obscured use by date on label	..	75.00	24.65	
	Sale of diced meat containing preservative	91.00	125.00	24.65	
	Sale of cottage cheese containing preservative	91.00	25.00	24.65	
	Sale of cottage cheese containing preservative	91.00	25.00	24.65	250.00
	Sale of milk bread deficient in non-fat milk solids	91.00	500.00	24.65	
	Sale of milk bread not date marked	..	300.00	..	
	Sale of milk bread not date marked	..	300.00	..	
	Refusal to sell food sample to authorized officer	..	75.00	24.65	
	Obstruction of an authorized officer		Dismissed		
	Sale of sausages containing excess preservative	91.00	400.00	24.65	
	Packed for sale pineapple juice containing foreign matter (slug)		Withdrawn		
	Sale of milk adulterated with water	91.00	750.00	24.65	
	Making false statement to authorized officer	..	1200.00	..	
	Sale of minced meat containing preservative	91.00	250.00	24.65	
	Sale of preserved fruit labelled with a false statement of ingredients	..	40.00	4.11	
	Sale of preserved fruit containing saccharin	91.00	40.00	4.11	
	Sale of preserved fruit labelled with a false statement of ingredients	..	40.00	4.11	
	Sale of preserved fruit containing saccharin	91.00	40.00	4.11	
	Sale of preserved fruit labelled with a false statement of ingredients	..	40.00	4.11	
	Sale of preserved fruit containing saccharin	91.00	40.00	4.11	
	Sale of minced meat containing preservative	91.00	400.00	24.65	
	Sale of beef sausages containing other meat species	..	300.00	..	
	Sale of beef sausages containing excess preservative	91.00	200.00	24.65	
	Sale of cannelloni & ravioli not labelled with statement of ingredients or date mark	..	50.00	24.65	
	Sale of sausages containing excess preservative	91.00	100.00	25.67	
	Sale of wholemeal bread deficient in crude fibre	91.00	50.00	24.65	
	Sale of milk bread not labelled with statement of ingredients or date mark	..	100.00	24.65	
	Sale of beef sausages containing other meat species	91.00	25.00	24.65	
	Sale of sausage meat containing excess preservative and deficient in total meat content	91.00	250.00	24.65	

Court	Offence	Anal. Fees	Fine	Court Costs	Prof. Costs
	Sale of manufactured meat containing foreign matter (blow-fly)		Withdrawn		
	Sale of chopped meat containing preservative		Withdrawn		
	Sale of orange juice not complying with prescribed standard	91.00	250.00	28.00	
	Sale of pork sausages containing other meat species	91.00	300.00	14.00	
	Sale of pork sausages containing excess preservative	..	300.00	14.00	
	Sale of bread containing foreign matter (cockroach portion)	91.00	500.00	28.00	
	Sale of minced meat containing preservative	91.00	200.00	28.00	
	Sale of wholemeal bread deficient in crude fibre	91.00	100.00	28.00	
	Sale of wholemeal bread deficient in crude fibre	91.00	250.00	24.65	
	Sale of milk bread deficient in non-fat milk solids	91.00	250.00	..	
	Sale of wholemeal bread deficient in crude fibre	91.00	250.00	28.00	
	Sale of milk bread deficient in non-fat milk solids	91.00	200.00	14.00	
	Sale of wholemeal milk bread deficient in non-fat milk solids	91.00	200.00	14.00	
	Prepared for sale wholemeal bread deficient in crude fibre	101.00	75.00	28.00	30.00
	Prepared for sale meat pies deficient in total meat	101.00	250.00	28.00	50.00
	Prepared for sale minced meat containing preservative	101.00	75.00	28.00	
	Sale of pork sausages containing other meat species	91.00	conv./ not fined	28.00	
	Prepared for sale wholemeal bread deficient in crude fibre	91.00	120.00	28.00	
	Prepared for sale minced meat containing preservative	101.00	300.00	28.00	
	Sale of pork sausages containing other meat species	101.00	200.00	..	
	Sale of minced meat containing preservative	101.00	500.00	28.00	50.00
	Sale of minced meat artificially coloured	101.00	100.00	28.00	
	Obscured date marking on label	..	100.00	14.00	
	Obscured date marking on label	..	100.00	14.00	
Bundaberg	Sale of meat pie containing foreign matter (cockroach)	91.00	500.00	24.65	
	Sale of milk bread deficient in non-fat milk solids	91.00	250.00	24.65	
	Sale of wholemeal bread deficient in crude fibre	91.00	250.00	24.65	
	Sale of sausages deficient in total meat	101.00	200.00	28.00	
Caboolture	Sale of sausages containing excess preservative	91.00	200.00	24.65	
Cairns	Sale of minced beef containing other meat species	91.00	400.00	24.65	
	Sale of wholemeal bread deficient in crude fibre	91.00	100.00	28.00	
	Sale of sausages containing excess preservative	101.00	250.00	15.00	
	Sale of minced meat containing preservative	101.00	250.00	15.00	
	Sale of preserved fruit labelled with false statement of ingredients	101.00	50.00	14.00	
	Sale of preserved fruit containing saccharin	..	50.00	14.00	
	Prepared for sale sausage meat containing excess preservative	101.00	500.00	28.00	
	Sale of orange juice containing excess preservative	91.00	400.00	28.00	
Charters Towers	Sale of pork sausages containing other meat species	91.00	100.00	28.00	
	Sale of sausages containing excess preservative and deficient in total meat	101.00	100.00	28.00	
Clermont	Sale of milk bread deficient in non-fat milk solids	91.00	50.00	24.65	
	Sale of wholemeal bread deficient in crude fibre	91.00	50.00	..	
	Sale of hi fibre bread deficient in crude fibre	91.00	50.00	..	
Cleveland	Sale of minced meat containing preservative	91.00	200.00	12.83	
	Sale of sausages containing excess preservative	91.00	200.00	12.84	
	Sale of sausages containing excess preservatve	101.00	120.00	28.00	
	Sale of sausages containing excess preservative	..	100.00	28.00	
Cloncurry	Sale of pork sausages containing other meat species	91.00	300.00	28.00	
Collinsville	Sale of meat pie containing foreign matter (plastic)	91.00	150.00	28.00	
Dalby	Sale of beef sausages containing other meat species	91.00	40.00	24.65	
	Sale of doughnut containing foreign matter (fly)	91.00	40.00	28.00	
Eidsvold	Sale of sausages containing excess fat	91.00	100.00	28.00	
Gladstone	Sale of sausages containing excess preservative	91.00	400.00	25.67	
	Preparation for sale wholemeal bread deficient in crude fibre	91.00	50.00	28.00	
	Preparation for sale milk bread deficient in non-fat milk solids	101.00	150.00	28.00	
	Preparation for sale wholemeal bread deficient in crude fibre	101.00	75.00	28.00	
Gordonvale	Sale of brown bread deficient in crude fibre	91.00	600.00	28.00	
Gympie	Sale of minced meat containing preservative	91.00	50.00	24.65	
	Sale of wholemeal bread deficient in crude fibre	91.00	100.00	24.65	
	Preparation for sale sausages containing excess preservative and deficient in meat	101.00	100.00	28.00	
	Preparation for sale sausages containing excess preservative and deficient in meat	101.00	100.00	..	
	Preparation for sale minced meat containing preservative	101.00	100.00	..	

Court	Offence	Anal. Fees	Fine	Court Costs	Prof. Costs
Holland Park	Waste beer not denatured	91.00	100.00	24.65	
	Sale of minced meat containing preservative and farinaceous substance	91.00	100.00	24.65	
	Sale of cartoned eggs not date marked	..	20.00	24.65	50.00
	Sale of sausages containing excess preservative	91.00	150.00	25.67	
	Prepared for sale minced meat containing preservative	91.00	300.00	25.67	
	Sale of beef sausages containing other meat species	91.00	150.00	28.00	
	Sale of minced meat containing preservative	91.00	150.00	14.00	
	Sale of sausages containing excess preservative	91.00	150.00	14.00	
	Sale of meat pies deficient in total meat content	91.00	200.00	28.00	
	Sale of sausages deficient in total meat	101.00	200.00	28.00	
	Sale of pork sausages containing other meat species	101.00	300.00	28.00	
	Prepared for sale sausages deficient in total meat	101.00	150.00	28.00	
	Prepared for sale wholemeal bread deficient in crude fibre	101.00	100.00	28.00	
Hughenden	Sale of bread not labelled with statement of ingredients or date mark	..	200.00	28.00	
Inala	Sale of sausages containing excess preservative	101.00	300.00	28.00	
	Sale of bread containing foreign matter (cockroach)	91.00	750.00	24.75	
	Alteration of date mark on packaged food	..	100.00	..	
	Preparation for sale milk bread deficient in non-fat milk solids	91.00	200.00	24.65	
	Alteration of date mark on packaged food	..	100.00	24.65	
	Sale of sausages containing excess preservative	91.00	125.00	25.65	
	Sale of food (crab claw) not of the nature demanded	91.00	150.00	24.65	
	Sale of food falsely described as crab claws	..	150.00	..	
Innisfail	Sale of wholemeal bread not labelled with a statement of ingredients	..	200.00	24.65	
	Sale of wholemeal bread not labelled with a date mark	..	150.00	..	
	Sale of milk bread not labelled with a statement of ingredients		Withdrawn		
	Sale of milk bread not labelled with a date mark	..	150.00	..	
	Sale of wholemeal bread deficient in crude fibre	91.00	400.00	28.00	
	Sale of milk bread deficient in non-fat milk solids	91.00	400.00	28.00	
Ipswich	Sale of minced meat containing preservative	91.00	75.00	24.65	
	False advertising of minced meat as free from preservative	..	75.00	24.65	
	Sale of pudding containing foreign matter (glass)	91.00	250.00	24.65	
	Sale of minced meat containing preservative	91.00	125.00	28.00	
	Sale of sausages containing excess preservative	91.00	125.00	..	
Kingaroy	Sale of sausages containing excess preservative	91.00	85.00	24.65	
	Sale of minced meat containing preservative	91.00	80.00	28.00	
Longreach	Sale of fruit juice drink containing excess preservative	91.00	50.00	28.00	
Mackay	Sale of fibre increased wholemeal bread deficient in fibre	91.00	50.00	24.65	
	Sale of chicken containing foreign matter (fly larvae)		Dismissed		
	Sale of pork sausages containing other meat species	91.00	250.00	24.65	
	Sale of minced meat containing preservative	91.00	200.00	24.64	
	Sale of minced meat containing preservative	91.00	200.00	28.00	
	Sale of bread containing foreign matter (stone)	91.00	400.00	28.00	
	Preparation for sale sausages containing excess fat	91.00	100.00	28.00	
	Sale of sausages containing excess preservative	91.00	40.00	28.00	
	Prepared for sale bread containing foreign matter (metal strips)	91.00	120.00	28.00	
	Sale of wholemeal bread deficient in crude fibre	91.00	10.00	28.00	
	Sale of beef sausages containing other meat species	101.00	400.00	28.00	
Malanda	Sale of yoghurt not labelled with a statement of ingredients	91.00	200.00	24.65	
	Sale of yoghurt not labelled with a statement of ingredients	..	500.00	28.00	
Maroochydore	Sale of milk bread deficient in non-fat milk solids	91.00	150.00	29.15	
Maryborough	Sale of pork sausages containing other meat species	91.00	150.00	24.65	
	Sale of milk bread deficient in non-fat milk solids	91.00	100.00	24.65	
	Sale of sausage meat containing excess preservative	91.00	200.00	24.65	
	Sale of minced meat containing preservative	91.00	200.00	24.60	
	Sale of minced meat containing preservative	91.00	150.00	24.65	
	Sale of sausages containing excess preservative	91.00	150.00	24.65	
	Sale of bread containing foreign matter (cockroach)	..	500.00	28.00	
Mount Isa	Sale of pork sausages containing other meat species	91.00	100.00	24.65	
	Sale of beef sausages containing other meat species	91.00	100.00	24.65	
Mount Morgan	Sale of wholemeal bread deficient in crude fibre	101.00	100.00	28.00	
	Sale of meat pies deficient in total meat	101.00	100.00	28.00	
	Sale of bread not labelled with statement of ingredients or date mark	..	75.00	..	
	Sale of sausages containing excess preservative	101.00	100.00	28.00	

Court	Offence	Anal. Fees	Fine	Court Costs	Prof. Costs
Moura	Sale of pork sausages containing other meat species	91.00	250.00	24.65	
	Sale of meat pies deficient in meat	91.00	60.00	24.65	
	Sale of orange juice deficient in vitamin C	91.00	100.00	14.00	
	Sale of orange juice labelled with a misleading statement *re:* vitamin C content	. .	20.00	14.00	
	Sale of sausages containing excess fat	91.00	150.00	28.00	
Nambour	Sale of milk bread deficient in non-fat milk solids	91.00	125.00	25.67	
	Sale of wholemeal fruit loaf deficient in crude fibre	91.00	100.00	25.67	
	Sale of sausages containing excess preservative	91.00	200.00	25.67	
	Sale of pork sausages containing other meat species	91.00	200.00	25.67	
	Sale of pork sausages containing excess fat	91.00	150.00	28.00	
	Sale of pork sausages containing other meat species	. .	150.00	. .	
	Sale of milk bread deficient in non-fat milk solids	91.00	200.00	28.00	
	Sale of wholemeal bread deficient in crude fibre	101.00	100.00	31.10	
	Sale of sausages deficient in meat and containing excess preservative	101.00	200.00	31.10	
Nanango	Preparation of meat pies deficient in total meat	101.00	50.00	28.00	
Petrie	Sale of potato chips containing foreign matter (cockroach)	. .	200.00	24.65	
	Sale of minced meat containing preservative	91.00	conv./ not fined	24.65	150.00
Pittsworth	Sale of pork sausages containing other meat species	91.00	40.00	24.65	
Pomona	Sale of minced meat containing preservative	91.00	100.00	24.65	
	Preparation for sale sausages containing excess fat	101.00	100.00	28.00	
Proserpine	Sale of meat pie deficient in total meat	91.00	600.00	24.65	
	Sale of milk bread deficient in non-fat milk solids	91.00	400.00	24.65	
	Sale of wine the label of which did not bear particulars required by the Food Act	. .	150.00	24.65	
	Sale of milk bread deficient in non-fat milk solids	91.00	800.00	28.00	
	Sale of beef sausages containing other meat species	91.00	75.00	28.00	
Redcliffe	Preparation for sale minced meat containing preservative	91.00	500.00	28.00	
	Sale of sausages deficient in total meat	101.00	300.00	28.00	
	Sale of sausages containing excess preservative	101.00	200.00	28.00	
Rockhampton	Sale of milk bread deficient in non-fat milk solids	91.00	300.00	24.65	
	Sale of beef sausages containing other meat species	91.00	200.00	24.65	
	Sale of minced meat containing preservative	91.00	300.00	24.65	
	Sale of meat pies deficient in meat	91.00	400.00	24.65	
	Sale of wholemeal bread deficient in crude fibre	91.00	100.00	24.65	
	Sale of meat pies deficient in meat	91.00	200.00	24.65	
	Sale of pie containing foreign matter (fly)	91.00	500.00	24.65	
	Sale of rum not complying with the standard	91.00	150.00	24.65	
	Sale of orange fruit juice cordial containing excess preservative	91.00	50.00	28.00	
	Sale of raspberry cordial containing excess preservative	91.00	50.00	. .	
	Sale of sausages containing excess preservative	91.00	200.00	28.00	
	Sale of goat milk not complying with bacteriological standard	91.00	100.00	28.00	
	Sale of bread containing foreign matter (insect fragments)	91.00	100.00	28.00	
	Sale of apple slices containing foreign matter (fly)	91.00	200.00	28.00	
	Sale of sausages not labelled with statement of ingredients	. .	300.00	28.00	
	Sale of minced meat containing preservative	91.00	300.00	28.00	
	Sale of flavoured milk not labelled with statement of ingredients	91.00	250.00	28.00	500.00
	Sale of flavoured milk not labelled with statement of ingredients	. .	250.00	. .	
	Sale of flavoured milk not labelled with statement of ingredients	. .	250.00	. .	
	Sale of flavoured milk not labelled with statement of ingredients	. .	250.00	. .	
	Sale of cordial containing excess preservative	101.00	200.00	28.00	
	Sale of beef sausages containing other meat species	101.00	150.00	28.00	
	Sale of beef sausages containing excess preservative	. .	150.00	. .	
	Sale of pork sausages containing other meat species	101.00	150.00	. .	
	Sale of pork sausages containing excess preservative	. .	150.00	. .	
Sandgate	Sale of whisky not complying with the Standard	91.00	100.00	24.65	200.00
	Sale of rum not complying with the Standard	91.00	100.00	. .	
	Sale of whisky not complying with the Standard	91.00	100.00	. .	
Sarina	Sale of beef sausages containing other meat species	91.00	400.00	28.00	
	Sale of beef sausages containing excess preservative	. .	600.00	. .	

Court	Offence	Anal. Fees	Fine	Court Costs	Prof. Costs
Scarness	Sale of wholemeal bread not date marked	..	25.00	12.32	
	Sale of milk bread not date marked	..	25.00	12.32	
	Sale of milk bread not date marked	..	25.00	12.32	
	Sale of wholemeal bread not date marked	..	25.00	12.32	
	Sale of beef sausages containing other meat species	91.00	100.00	24.65	
	Sale of minced meat containing preservative	91.00	100.00	24.65	
Southport	Sale of sausages containing excess preservative	91.00	200.00	24.65	
	Sale of bread containing foreign matter (cockroach)	91.00	150.00	24.65	
	Sale of minced steak containing preservative	91.00	250.00	24.65	
	Sale of beef sausages containing excess preservative	91.00	300.00	28.00	
	Sale of minced meat containing preservative	91.00	300.00	28.00	
	Sale of meat pies deficient in total meat	91.00	400.00	28.00	
	Sale of minced meat containing preservative	91.00	500.00	28.00	
	Sale of diced veal containing preservative	91.00	400.00	28.00	
	Sale of sausages containing excess fat	91.00	400.00	28.00	
	Sale of milk bread deficient in non-fat milk solids	91.00	400.00	28.00	
	Sale of rissoles containing excess fat	91.00	400.00	28.00	
	Sale of sausage meat containing excess preservative	91.00	400.00	28.00	
	Sale of minced meat containing preservative	101.00	400.00	28.00	
	Sale of sausage meat containing excess preservative	101.00	400.00	28.00	
	Preparation for sale minced meat containing preservative	101.00	250.00	28.00	
	Sale of orange juice deficient in vitamin content		Dismissed		
Texas	Sale of wholemeal bread containing excess ash		Withdrawn		
Toowoomba	Sale of beef sausages containing other meat species	91.00	150.00	28.00	
	Sale of sausages containing excess preservative	91.00	200.00	28.00	
	Sale of skim milk containing excess fat	91.00	100.00	28.00	
	Sale of minced meat containing preservative	101.00	200.00	28.00	
	Sale of beef sausages containing other meat species	101.00	150.00	28.00	
	Sale of pork sausages containing excess preservative ..	101.00	250.00	28.00	
	Sale of pork sausages containing other meat species	..	200.00	..	
	Sale of sausages containing excess preservative	91.00	181.00	28.00	
Townsville	Sale of meat pies deficient in total meat	91.00	250.00	26.45	
	Sale of meat pie containing foreign matter (cockroach) ..	91.00	600.00	25.80	
	Sale of pork sausages containing other meat species	91.00	100.00	28.00	
	Sale of fruit drink containing excess preservative	91.00	175.00	..	
	Sale of fruit drink containing excess preservative	91.00	175.00	..	
	Sale of fruit drink containing excess preservative	91.00	175.00	28.00	
	Preparation for sale minced meat containing preservative	91.00	250.00	28.00	
	Preparation for sale minced meat containing preservative	101.00	250.00	28.00	
	Preparation for sale steak and kidney containing preservative	101.00	500.00	28.00	
	Fish species not of the nature demanded		Dismissed		
Warwick	Sale of sausages containing excess preservative	91.00	100.00	25.67	
Wynnum	Sale of wholemeal bread deficient in crude fibre	91.00	100.00	14.00	50.00
	Sale of milk bread deficient in non-fat milk solids	91.00	100.00	14.00	50.00
	Sale of frozen peas containing foreign matter (rabbit's paw)	91.00	100.00	25.67	
	Sale of sausages containing excess preservative	91.00	300.00	12.84	
	Sale of pork sausages containing other meat species	..	300.00	12.83	
	Sale of milk bread deficient in non-fat milk solids	91.00	100.00	25.67	
Yeppoon	Sale of milk bread deficient in non-fat milk solids	91.00	60.00	24.65	
	Preparation for sale wholemeal bread deficient in crude fibre	101.00	200.00	28.00	
	Sale of meat pies deficient in total meat	91.00	35.00	24.65	
Totals		$20,409.00	$53,016.00	$5,854.09	$1,380.00

SECTION OF ENVIRONMENTAL SANITATION

INTRODUCTION

The *Health Act* 1937–1984 places a responsibility for matters pertaining to environmental sanitation on the local authorities.

The Section of Environmental Sanitation assists local authorities, by way of an advisory service, in fulfilling their responsibilities in this field. Reports from Departmental officers together with statutory reports from Medical Officers of Health and Local Authority Health Surveyors give an indication of the standard of environmental sanitation throughout the State.

The section acts directly in regard to toys, paint, cooking utensils (other than those which are covered by the *Food Act* 1981–1984) and injurious articles. Officers of this section inspect, report on and make recommendations concerning applications for approvals for refuse removal vehicles and refuse containers.

CHOLERA

The three-year surveillance of public water supplies, recreational waters and the Logan, Albert, Mary and Upper Brisbane Rivers for *Vibrio cholerae* continued until the end of April, 1984. The decision to terminate the surveillance at the end of April was based on the fact that in previous programmes the organism was not isolated during the colder months.

In the absence of a full surveillance programme, a programme of placing Moore swabs in sewage treatment plants at Cairns, Townsville, Mackay, Rockhampton, Bundaberg, Nambour, Toowoomba, Gold Coast and Brisbane was commenced in May, 1984 as a method of indicating the presence of cholera in the community.

The number of samples examined in connection with cholera surveillance are shown in the tables below.

SAMPLES EXAMINED FOR *VIBRIO CHOLERAE* IN PROGRAMME 1st JULY, 1983 TO 30th APRIL, 1984

Type of Sample	Number Examined	Number of isolations	
		No.	%
Waters	2 494	1	0.04
Bi-valves	5	. .	. .
Moore swabs	56	. .	. .

Since 1st May, 1984, an additional 23 Moore swabs have been examined with no positive isolation of *V. cholerae*.

The only *Vibrio cholerae* isolation during 1983–84 was from a sample of water obtained at Christmas Creek, a tributary of the Logan River, on 11th October, 1983.

In addition to the samples listed above, Departmental officers obtained the following water samples from streams in connection with the cholera surveillance programme.

RECREATIONAL WATERS (STREAMS)

Type of Analysis	Number
For microbiological examination	540
For chemical analysis	504
For determination of trace metal content	504
For determination of nutrient content	504

These samples were obtained to establish if there is any correlation between water conditions and the presence or absence of *Vibrio cholerae*. Any possible correlation has not been evaluated to date.

As a follow-on from last year's sampling of raw water used to irrigate commercially grown lettuce, a survey for the presence of *Vibro cholerae* and *Salmonella sp.* in irrigation water and vegetables eaten in the raw state commenced in January, 1984. A total of eight farms located in the Cairns, Townsville, Rockhampton, Bundaberg, Nambour, Toowoomba and Brisbane districts are involved in the survey. Water and vegetable samples are obtained from each farm fortnightly. Details of the results to the 30th June, 1984, are contained in the table below.

SAMPLES OF IRRIGATION WATER AND VEGETABLES EXAMINED FOR *VIBRIO CHOLERAE* AND *SALMONELLA SP.*

Type of sample	Number Examined	Cholera Organisms Present	Salmonella Present	
			No.	%
Water	90	Nil	26	28.9
Lettuce heads	373	Nil	13	3.5
Cabbage heads	10	Nil	Nil	. .
Bunches of celery	35	Nil	Nil	. . .

The current survey will continue until the end of December 1984.

AEDES AEGYPTI

In the Annual Report for the year ending 30th June, 1983, it was advised that a survey of rainwater tank manufacturers had been undertaken and that negotiations had been held with the suppliers of mesh screening concerning the requirements of the Regulations.

As a result of these negotiations, alterations to the legislation to require adequate screen meshing of tanks is under consideration.

WATER SUPPLIES

As in the past, the Health Department has provided a service in regard to the examination and analysis of water for human consumption to local authorities and other bodies.

The number of samples of water for human consumption examined at State, Commonwealth and Local Authority Laboratories are set out in the tables below.

WATER SAMPLES EXAMINED BY THE STATE HEALTH LABORATORIES

Water Sample	Total	Failed Criteria	
Bacteriological—			%
Treated public water supplies	8 454	312	(3.7)
Swimming pools	1 461	67	(4.6)
Water slides	136	8	(5.9)
Spas—			
Bacteriological	220	14	(6.4)
Pseudomonas	149	34	(22.8)
Yersinia	3	0	. .
Raw water (untreated)	1 955		
Melioidosis	14	0	. .
Salmonella	7	2	(28.6)
Yersinia	13	0	. .
Giardia	1	0	. .
Miscellaneous	89	75	(84.2)
Total	12,502	512	
Chemical—			%
General chemical	1 562	404	(25.8)
For—			
Trace metal content	269	16	(5.9)
Pesticide content	197	5	(2.5)
Fluoride content	501	64	(12.8)
Miscellaneous	40	2	(5.0)
Total	2 569	491	
GRAND TOTAL	15 071	samples	

WATER SAMPLES EXAMINED BY COMMONWEALTH AND LOCAL AUTHORITY LABORATORIES

Water Sample	No. of Samples	Samples Not Meeting Standard	No. Percentage
Bacteriological—			
Treated water supplies	4 456	226	(5.1)
Swimming pools	349	10	(2.9)
Water slides	59	6	(10.2)
Spas	2	0	. .
Sea water	33	13	(39.4)
Raw water (untreated)	943		
Salmonella	14	0	. .
Pseudomonas	19	0	. .
Total	5 875	255	
Chemical (Standard Chemical Analysis)—			
Standard raw waters	125	52	(41.6)
Total	125	52	
GRAND TOTAL	6 000 samples		

Standards: Bacteriological. S.P.C. . . . . 200 organisms/ml
Coliforms 4 organisms/100ml
E. coli . . . . Nil
Chemical. N.H & M.R.C./A.W.R.C. Drinking Water Guidelines.

SANITATION SURVEYS

Sanitation surveys, carried out by Departmental officers during the year revealed that the inadequate control of refuse tips is the main area of concern. While local authorities in the major centres of population are very aware of the necessity for proper tip control, it is unfortunate that, in less densely populated areas, there has been less interest in this aspect of public health.

A further, complete survey of Fraser Island was carried out during the year and revealed that conditions remained basically the same as they were in 1982–83. The situation arises from unsatisfactory supervision, with large numbers of itinerants using an area which generates little income for the Local Authorities.

It came to notice during the year that fresh, dewatered sludge from a sewage treatment plant in a Local Authority near Brisbane was being deposited on a golf course which was in the catchment area of a major water storage. Action was taken by the Health Department to have this practice discontinued. As a result of this incident, Departmental officers are making enquiries into the disposal of sludge from sewage treatment plants in local authority areas.

Departmental officers in North Queensland have reported that the standards of basic hygiene and facilities at Aboriginal and Islander communities are improving.

PAINTS

During the year a total of 348 samples of paint and paint scrapings were submitted for analysis. Of these, 267 passed and 81 failed. Where paint containing lead was found on houses, action was taken to have the paint removed. In one case legal samples of paint were removed from a Brisbane paint distributor who refused to label his products in accordance with the Paint Labelling Regulations 1973. The taking of the legal samples brought immediate co-operation and the matter of the labelling was rectified in a very short time. It was not necessary to institute legal proceedings.

TOYS AND OTHER ARTICLES

Toys on sale at retail outlets were sampled throughout the year and were submitted for analysis. The majority of samples which failed did so because of the presence of lead in the article or in the decorative coating. Both retailers and wholesalers co-operated with the Department in having the offending toys removed from sale.

Four types of babies feeding devices were examined and found to fit the description of a tubed nursing bottle. Section 124 of the Health Act prohibits the sale of tubed nursing bottles. Action was taken to have the articles withdrawn from sale.

A variety of other articles were sampled, and where necessary, any offending items were removed from sale.

Details of samples examined are shown in the table below.

Type of sample	Number Examined	Pass	Fail
Toys	326	242	84
Modelling clay	6	6	. .
Erasers	36	36	. .
Water filters	1	. .	1
Soil	155	120	35
Cooking utensils	38	34	4
Crockery/pottery	67	60	7
Miscellaneous (incl. babies dummies etc.)	124	102	22
Total	753	600	153

RADIOACTIVE SANDS

A total of 310 premises were examined for the presence of radioactive sand during 1983–84. Positive readings were obtained at 13 premises and were referred to the Division of Health and Medical Physics for more detailed testing.

VECTOR CONTROL UNIT

OVERVIEW

Queensland has had a long history associated with arthropod-borne diseases such as filariasis, malaria, dengue, Australian encephalitis and epidemic polyarthritis. The tropical north of the State is particularly vulnerable to epidemics if adequate safeguards are not invoked. Several factors make northern Queensland the most receptive area in Australia with respect to such problems:—

- The tropical climate is amenable to continuous production of mosquitoes and other arthropods known to transmit medically-important disease.
- Known vectors, *Culex annulirostris* (primary vector of Murray Valley encephalitis, Kunjin and Ross River viruses); *Aedes vigilax* (Ross River virus, dog heartworm), *Culex quinquefasciatus* (the major suspected vector of human filaria, *Wuchereria bancrofti* up until 1938), *Anopheles farauti* group, *An annulipes*, *An hilli* and *An bancrofti* (*Plasmodium falciparum* and *Plasmodium vivax*) are abundant.
- Recent surveys show that the vector of dengue fever, *Aedes aegypti* is extremely abundant and widespread throughout Queensland. The 1981–83 epidemic of dengue fever types 1 and 2 is attributed to this mosquito which breeds in containers close to human habitations, emphasising the need for adequate surveillance.
- The opening of the new international airports at Townsville and Cairns and significant travel across the Torres Strait from Papua Niugini have increased the risk of importation of exotic disease agents. Increased surveillance has been instituted.
- Expansion and development of large scale water impoundments, (for example, Ross River dam stage II, Burdekin dam and rice fields of the Atherton Tableland and Burdekin irrigation area) have provided increased opportunities for mosquitos and snail breeding and attraction of water fowl. The development of these areas is being closely monitored.
- Widespread drug resistance of malaria parasites such as *Pl falciparum* particularly in Papua Niugini, poses increased risks for Australian travellers.
- The possible introduction of the rural dengue vector, *Aedes albopictus* from Papua Niugini or the Solomons is recognized.
- Human population growth in North Queensland, along with the presence of suitable vectors, increases the risks of transmission of these diseases whenever an infected carrier arrives from overseas.

Although the long-term perspective extends beyond pathogens transmitted by the bites of insects, the initial role of the Vector Control Unit is to concentrate on certain well-defined problems, e.g. dengue fever, water management, and their surveillance. Aspects relating to pest problems, e.g. saltmarsh mosquito *Ae vigilax*, come within its scope. Because vector control in Queensland is the responsibility of local authorities, training, monitoring of programmes, and consultancy are considered important so as to increase the level of expertise available. The two entomologists of the Vector Control Unit are responsible for upgrading technical expertise, while the three health inspectors are now ideally placed to monitor local authority procedures and assist with operational problems.

CURRENT PROJECTS

Aedes aegypti surveillance and dengue control

During 1983, approximately $2.2m was allocated in Queensland as part of a Commonwealth Employment Programme (CEP), designed to reduce numbers of *Ae aegypti* through environmental sanitation and health education. The Vector Control Unit assisted with this Commonwealth programme through (i) the Director of the Unit and the Director of Environmental and Occupational Health's sitting as members of a State co-ordinating committee, (ii) training of employees of the CEP programme and (iii) monitoring *Ae aegypti* levels in relation to the CEP programme. To date, four training courses have been completed (Townsville, Cairns, Mackay and Rockhampton, the latter by District Inspector T. Lunney) to cater for 157 employees throughout 17 local authority areas within Queensland.

The vector of dengue, *Aedes aegypti* is widely distributed throughout Queensland westward to Karumba, Normanton, Mornington Island and Longreach with the southern limit extending to Dirranbandi (See Figure 12). During February–March, the southern border towns of Dirranbandi, Dalby, Gatton, Goondiwindi, Inglewood, Ipswich, Millmerran, Pittsworth, St. George, Texas, Toowoomba and Warwick were surveyed. Although the Australian domestic container breeding *Aedes notoscriptus* was common, *Aedes aegypti* was detected in six of nine premises inspected at Dirranbandi, breeding in old car bodies, discarded tyres, rain water tanks, a pot plant base and in a pool beneath a sink on a wooden floor. During March, Gayndah, Mundubbera and Monto were found to be positive for *Ae aegypti* but Kingaroy and Murgon were negative. During May, a CEP team deployed from Rockhampton found *Ae aegypti* at Gladstone. In view of serological diagnoses of dengue at both North Ipswich and Kingaroy, negative survey results pose an interesting question. If these two patients contracted their infections within these two towns, what was the vector? Vector competence research at the Queensland Institute of Medical Research on the susceptibility of species such as *Ae notoscriptus* should help answer this.

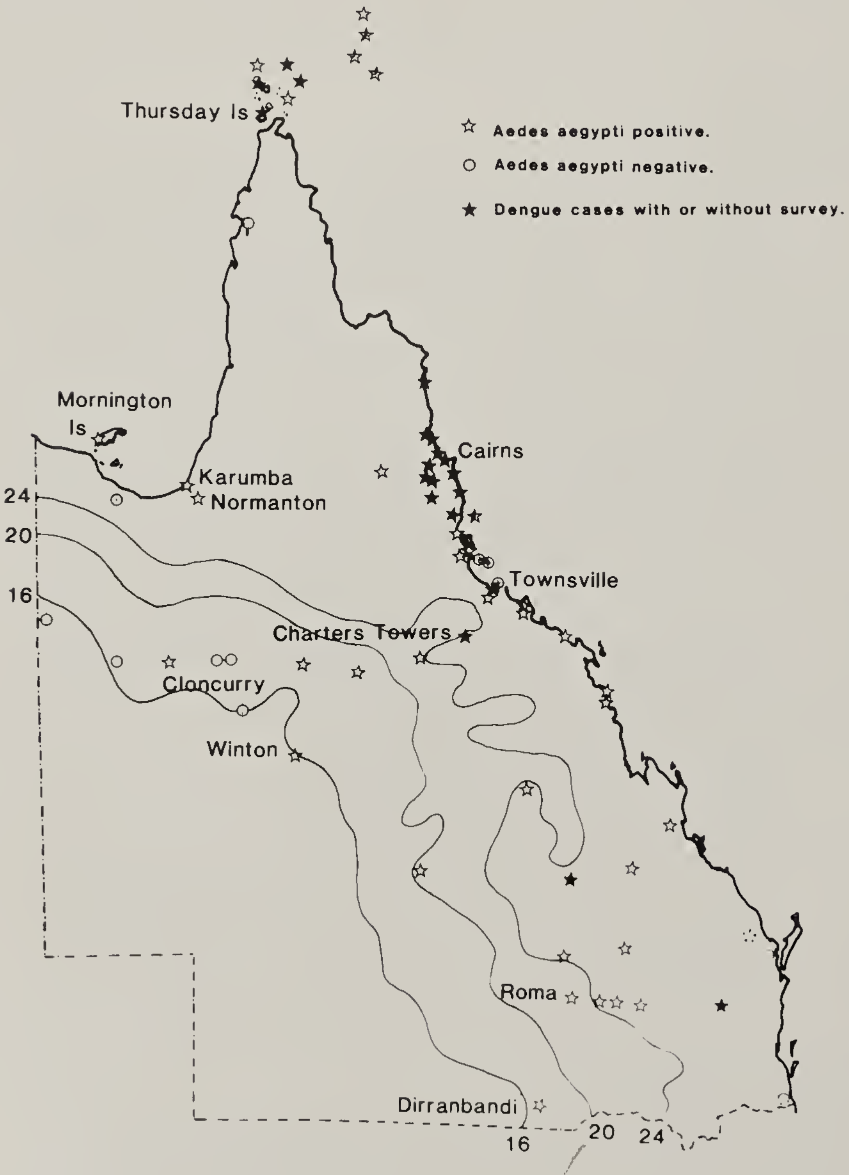

Figure 12. Distribution of dengue infection and *Aedes aegypti* in Queensand 1981 to 1983 in relation to 16, 20 and 24 inch isohyets.

Although *Ae aegypti* is widely distributed, their densities within these towns are mainly low to moderate, for example, Chillagoe, Atherton, Mareeba, Roma, Mackay and Ingham; but some harbour levels that present a high risk of dengue disease for example, Karumba, Normanton, Kuranda, Monto and Thursday Island. Despite many dengue infections and several surveys, a June estimate of *Ae aegypti* on Thursday Island was still high with a Breteau index (number of infested containers per 100 premises) of 42. Further evaluation of the actual meaning of these larvae indices is required as a recent dengue type 1 outbreak at Mundingburra was associated with a low prevalence of *Ae aegypti* (House index (% of premises) of 4.0). In summary, the measures adopted against this mosquito require continued effort to ensure success. One of the keys to this is ensuring public motivation and action in their own backyards.

Water Impoundments

The need to harness water resources for agricultural purposes and for human consumption has led to exacerbation of several arthropod-borne disease problems throughout the world, for example, malaria, western equine enchephalitis, St. Louis encephalitis, Japanese encephalitis and filariasis as well as snail transmitted schistosomiasis, chlonorchiasis, opisthochiasis and paragonomiasis. As adequate water resources are crucial to northern development, certain schemes require monitoring as a model for future schemes, to provide an adequate data base for use in influencing designers and planners, and to prevent epidemics.

Monitoring of the Ross dam, 10 km from Townsville was commenced in February, 1984, as a joint project with the Queensland Insititute of Medical Research and James Cook University. Any exacerbation in mosquito-borne disease caused through the expansion of the dam in 1986–87 will be monitored through changes in mosquito densities, species diversity, and possible increases in antibody conversion rates in sentinel fowl flocks situated along transects away from the present stage 1 water margin. These activities are complementary to the Vector Control Unit's activities and are necessary, since no previous data exist for the Ord Scheme in Western Australia which currently has the highest rate of Murray Valley encephalitis infected mosquitoes (1 in 650 *Cx annulirostris* during the wet season) and because of the large Townsville population potentially at risk.

In 1988, the Burdekin dam will be filled bringing forth vast changes and servicing 660 farms, some of which will engage in rice monoculture. During 1984, several visits to the dam site and the developing town are allowing the compilation of a data base on which to estimate changes.

At present, no definitive data exist on mosquito species which colonize Australian rice-fields, despite their association with malaria, Japanese encephalitis and Brugian filariasis in Asia and with malaria in California during the early twentieth century. During June, an entomological programme was established at Mareeba where 850 ha of rice is produced. The project is controlled by the entomologist (Cairns) in conjunction with local health authorities, CEP and the Department of Primary Industries to define what species commonly breed in rice-fields and their seasonal patterns, towards developing a scheme for their control. The investigation of rice-fields will extend to Ayr and the Burdekin area where another Department of Primary Industries entomologist is working.

Training and Advice to local authorities

To increase the expertise and degree of sophistication in vector control is a primary aim of this unit. Having been employed in the area by the Queensland Institute of Medical Research from 1982, and more recently by the Department of Health, the Townsville entomologist, Mr P. Barker-Hudson has succeeded in upgrading expertise and interest of the Townsville-Thuringowa area to a point where they now employ a multi-disciplinary management and information system, have well-trained specialist vector control groups within the two authorities and conduct specialist training and working seminars. Liaison with local authorities is continuing and being expanded. During May, 1984, a Mosquito Indentification and Vector Control Course was held in Mackay with all 21 health surveyors passing the final examination. In addition, the continuing surveillance programmes outlined above provide informal "hands-on" experience for any local authorities who wish to participate.

Malaria

Malaria occurred in the Torres Straits from February to May, 1984. A medical and nursing team from Thursday Island and health inspectors from this unit instituted a programme to prevent transmission and control the outbreak. A subsequent investigation and refinement of control measures was undertaken by officers of the Commonwealth Department of Health, Sydney, and these health inspectors. The report is pending.

THE OCCUPATIONAL HEALTH UNIT

OVERVIEW

It is obvious that community awareness in regard to occupational health has increased dramatically in the last two years. This is reflected in a rapid increase in workload encountered in this area. More than 300 separate requests for assistance were received in the last year, including submission of samples for analysis by the occupational hygiene section and requests for investigations into problem areas. Requests for advice on the telephone, for printed material and for speakers at various functions number many hundreds over a year. The Unit has a staff establishment of 2 medical officers, 1 industrial health inspector, 1 technical assistant and 2 clerical assistants (stenographers).

The Government Chemical Laboratory continued its excellent support by providing the occupational hygiene service. Chest X-ray surveys in industry are conducted with the co-operation of the Division of Specialized Health Services. Appreciation is expressed to these two Divisions of the Department for their active assistance.

The Occupational Health Unit has multiple roles including the provision of advice and assistance to industry, commerce, unions and the general public. This is largely a preventive medicine function. Another major preventive role is the routine monitoring of hazardous occupations such as those within the lead, asbestos and pesticide industries. Regular sampling of workers and their workplaces were undertaken in these industries throughout the year. Where possible, other hazardous jobs were also identified and routine testing instituted.

The following number of tests were conducted:—

Lead industries	107 visits	530 tests
Pesticides and chemicals ..	16 visits	400 tests
Timber treatment (arsenic) ..	12 visits	80 tests

In addition the unit offers assistance where occupational health problems have arisen within the workforce. Usually combined visits by an occupational hygiene team and occupational health medical officers are made in such circumstances so that an assessment of all aspects of the problem can be made. Advice is then offered on measures designed to control the problem. Follow-up visits are made if considered necessary.

Excellent co-operation continued throughout the year with industrial inspectors of the Department of Employment and Industrial Affairs, and routine discussions were held on matters of mutual interest in occupational health including the formulation of legislation in occupational health under the Factories and Shops Act.

OCCUPATIONAL HEALTH INVESTIGATIONS

A very wide variety of investigative work was undertaken in the last year covering all areas of occupational health from ergonomic problems in offices to chemical contamination in industry.

A fire in a Brisbane agricultural chemical warehouse and packing establishment created a hazardous situation for a large number of workers, including firefighters and workers cleaning up the sight, and a potential community health problem was created. Very careful consideration had to be given to the proper disposal of hazardous waste from the site including soil saturated with toxic compounds. Officers of the Unit were involved over several weeks while proper site restoration was undertaken.

A visit to a large mine and ore treatment plant in North Queensland was undertaken to investigate a report that asbestos was present in the ore body as an impurity. While some asbestiform material was present, many asbestos fibre counts over several days revealed no significant level of asbestos fibre in most work situations. However, since there is an on-going potential problem, the company has undertaken a continuous monitoring programme.

Asbestos was by far the biggest issue in occupational health over the last year. While there has been a marked reduction in asbestos use in industry, particularly with the phasing out of asbestos from asbestos cement manufacture, there has been an enormous upsurge in community interest in the material. The refusal of many unions to allow members to be exposed to asbestos, even in controlled situations, resulted in many samples being received for identification and created an enormous expansion in asbestos removal work. The result was an uncontrolled growth in the asbestos removal industry, and difficulties were experienced in monitoring all the stripping operations which have been of very mixed quality.

Officers of the Occupational Health Unit have been involved over the year with officers of other departments in discussions on possible future control of the industry in order to ensure safety for workers and the general public.

Officers of the Unit gave approximately 30 lectures to various groups throughout the year on a variety of occupational health topics including asbestos, pesticides, handling hazardous chemicals, the effects of noise and ergonomics. The Unit acts as a resource centre for information on occupational health.

In addition the Unit continued its involvement in the training of medical undergraduates with factory visits on a number of occasions and provision of resource material in occupational health matters to students.

SEXUALLY TRANSMISSIBLE DISEASES

OVERVIEW

The total number of notifiable sexually transmissable diseases for 1983–84 was 2 734. This was 112 more than that notified in the previous year and represents a rate of 110.55 per 100 000 which is a slight increase in the 1982–83 rate of 108.36 per 100 000.

Although there is an increase both in rate and in numbers, this increase could be explained by the inclusion, for the first time, of a complete year's notification of herpes genitalis and results from—

- a decrease of 58 cases of syphilis (433 to 375);
- an increase of 77 cases of gonorrhoea (1 385 to 1 462);
- an increase of 113 cases of herpes (398 to 511);
- a decrease of 20 cases of other forms (406 to 386).

This overall increase resulted from a decrease of 14 males and an increase of 126 females presenting with notifiable diseases and gave an improved female/male ratio (ideally 1:1) of 1:1.67 which is the best ratio since 1980–81.

Continuing to be the most affected group, the 15–24 year old age group has been responsible for 57.87 per cent of total notifications.

Details supporting the above statements are available from the following two tables.

NOTIFIABLE VENEREAL DISEASES 1966–67 to 1983–84

	Notifications				Age Distribution—Per cent			
Year	Males	Females	Total	Rate/100 000	0–14	15–19	20–24	25 +
1966–67	1 221	445	1 666	100.3	1.2	26.1	35.2	37.5
1967–68	1 163	491	1 654	97.2	.8	23.9	34.5	40.8
1968–69	1 422	611	2 033	116.1	1.1	23.8	35.7	39.4
1969–70	1 403	547	1 950	110.2	1.2	25.3	33.1	40.4
1970–71	1 441	439	1 880	103.3	0.9	26.5	32.8	39.8
1971–72	1 575	545	2 120	116.0	0.9	23.8	35.4	39.9
1972–73	1 806	719	2 525	138.2	1.9	27.2	33.9	36.9
1973–74	1 657	898	2 555	131.3	2.0	25.0	30.1	42.8
1974–75	1 705	872	2 577	128.7	1.1	28.9	32.5	37.5
1975–76	1 391	688	2 079	103.18	1.9	25.8	34.5	37.6
1976–77	1 457	731	2 188	103.11	2.5	24.6	30.2	42.7
1977–78	1 935	1 341	3 276	153.3	2.65	23.23	30.65	44.46
1978–79	1 912	1 461	3 373	154.7	3.08	24.49	28.11	44.32
1979–80	1 855	1 231	3 086	139.35	1.59	23.2	30.14	45.07
1980–81	1 638	943	2 581	114.82	2.25	21.31	30.41	46.03
1981–82	1 413	647	2 060	89.3	1.43	21.66	31.93	44.96
1982–83	1 724	898	2 622	108.36	2.40	20.59	31.57	45.73
1983–84	1 710	1 024	2 734	110.55	1.83	23.37	34.50	40.30

AGE GROUPS OF NOTIFIED CASES OF NOTIFIABLE DISEASES

	Syphilis			Gonorrhoea			Herpes			Others		
Age Group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	..	1	1	..	..	..	..	..	..	..	..	..
1–4	4	3	7	1	1	2	..	..	..	1	1	2
5–9	5	1	6	2	..	2	..	..	..	..	..	..
10–14	5	5	10	6	12	18	..	..	..	1	1	2
15–19	43	57	100	230	129	359	16	64	80	33	67	100
20–24	43	41	84	320	191	511	74	109	183	101	52	153
25–29	33	23	56	181	80	261	68	38	106	48	11	59
30–34	17	22	39	118	25	143	51	14	65	25	4	29
35–39	19	6	25	58	26	84	37	8	45	10	2	12
40–44	7	3	10	25	3	28	11	3	14	15	..	15
45–49	7	2	9	14	1	15	5	1	6	6	2	8
50–54	8	2	10	17	..	17	6	..	6	2	1	3
55–59	1	2	3	3	..	3	2	1	3	3	..	3
60–64	4	..	4	3	..	3	2	..	2	..	..	..
65 & over	1	..	1	1	..	1	..	..	..	..	..	..
Not stated	5	5	10	11	4	15	1	..	1	..	..	..
Total	202	173	375	990	472	1 462	273	238	511	245	141	386

PRIMARY SYPHILIS

The number of cases of Primary Syphilis seen by practitioners represents the activity of the disease in the community and the awareness of the attendants of its presence. In 1983–84 the number of cases of primary syphilis reported was 86, an increase of 26 on the previous year, although only one such case was reported from the metropolitan area. The male cases (48) represented 55.81 per cent of these notifications and the 15–24 year-old group was responsible for 51.15 per cent of the total incidence. All cases occurred below 50 years and only two cases were in children below 14 years (6 in 1982–83).

The following table gives details of the cases of primary syphilis by age and sex.

Age Group	Male	Female	Total
1–4	1	..	1
5–9	..	..	..
10–14	..	1	1
15–19	7	13	20
20–24	17	7	24
25–29	9	8	17
30–34	4	2	6
35–39	6	4	10
40–44	1	1	2
45–49	2	..	2
50–54	..	..	..
55–59	..	..	..
60–64	..	..	..
65 & over	..	..	..
Not stated	1	2	3
Total	48	38	86

BRISBANE CLINIC

The re-siting of the female clinic is reflected by an increase in female attendances and new patients, there being 6 219 attendances by females, 4 917 of whom presented with new diseases compared to 2 763 the previous year. Of these new cases, 512 were found to have a notifiable disease, which represents an increase of 77 on the 1982–1983 figures but a decrease in the percentage incidence of attenders from 15.74 per cent to 10.41 per cent. The number of persons admitting to "professionalism" was 3 304 or 67.19 per cent of new cases.

There was an increase in male attendances from 5 225 to 6 542 with 5 053 being for possible new diseases. The notifications fell from 975 to 560, this figure representing only 11.08 per cent of those presenting with possible new infections (18.3% in 1982–83). Non-specific urethritis was responsible for 29.34 per cent of new patients and gonorrhoea for 6.49 per cent, corresponding figures for the previous years being 31.45 per cent and 8.1 per cent respectively. No disease was detected in 32.63 per cent of new male patients and in 45.21 of new female patients. Only one case (female) of primary syphilis was detected. Some 519 cases of gonorrhoea (1 female) were detected compared with 606 cases in 1982–83.

MARITAL STATUS AND SEX

The incidence of reported cases among married persons was 10.38 per cent compared with 10.36 per cent in 1982–83. However, the marital state was not stated in 613 (22.4%) of cases compared with 13.27 per cent in the previous year. Notwithstanding this omission, 61.7 per cent of the total incidence was in single persons.

Marital Status	Male	Female	Total
Single	1 046	641	1 687
Married	198	85	283
Separated	50	34	84
Widowed	7	6	13
Divorced	33	21	54
Not Stated	376	237	613
Total	1 710	1 024	2 734

METROPOLITAN/COUNTRY INCIDENCE

This financial year the metropolitan incidence of reported cases fell from 58.6 per cent of total cases to 53.69 per cent. Of these 1 468 cases, gonorrhoea was responsible for 605 (41.21%), syphilis for 70 cases (4.77%), herpes 460 (31.34%), and other forms for 333 cases (22.68%).

Corresponding extra-metropolitan figures are gonorrhoea 857 (67.69%), syphilis 305 (24.09%), herpes 51 (4.03%), and other forms 53 (4.19%).

These figures are a summary of the following table.

	Metropolitan		Outside Centres		Whole State		
	Males	Females	Males	Females	Males	Females	Total
Gonorrhoea—							
Unspecified	7	7	174	80	181	87	268
Acute	372	210	423	125	795	335	1 130
Sub-acute	1	7	13	41	14	48	62
Chronic	..	..	..	1	..	1	1
Opthalmia	..	..	..	..	..	..	..
Vulvo-vaginitis	..	1	..	..	..	1	1
Total	380	225	610	247	990	472	1 462
Syphilis—							
Unspecified	1	6	19	19	20	25	45
Primary	4	6	44	32	48	38	86
Secondary	6	9	10	10	16	19	35
Tertiary	..	..	1	..	1	..	1
Latent	28	9	87	80	115	89	204
Neuro	1	..	..	..	1	..	1
Heredo (congenital)	..	..	1	2	1	2	3
Total	40	30	162	143	202	173	375
Herpes	258	202	15	36	273	238	511
Other Forms—							
Soft sore	3	..	..	..	3	..	3
Venereal warts	212	118	1	4	213	122	335
Ulcerative granuloma	..	..	29	19	29	19	48
Total	215	118	30	23	245	141	386
Grand Total	893	575	817	449	1 710	1 024	2 734

PRIVATE PRACTITIONER REPORTING

In 1983–84, the incidence of reported cases emanating from private doctors was 366 cases (13.38% of the total reported). There were 39 more cases from this source and the percentage of the total rose from 12.47 per cent.

Hospitals were responsible for 1 017 cases, 973 of whom were extra-metropolitan. This total figure represents 37.19 per cent of the overall reported cases and is an improvement on the 34.05 per cent in 1982–83.

Further information is provided in the next table.

PRIVATE PRACTITIONER REPORTING

——	Males	Females	Total
Private doctors—			
Brisbane	54	39	93
Outside centres ..	192	81	273
Total	246	120	366
Clinics—			
Brisbane	820	511	1 331
Outside Centres	4	16	20
Total	824	527	1 351
Hospitals—			
Brisbane	19	25	44
Outside centres	621	352	973
Total	640	377	1 017
Total all sources ..	1 710	1 024	2 734

BETA LACTAMASE PRODUCING NEISSERIA GONORRHOEA

This disease increased from 45 cases in 1982–83 to 71 cases this fiscal year. Of this number 30 were infected overseas and four were contacts of persons just returned therefrom. Local infection accounted for 18 cases and no information was obtained in 19 cases. Of this number only 35 (50%) attended the Brisbane Clinic.

HOMOSEXUALS

There were 63 notified cases of sexually transmissible diseases from 501 males admitting to homosexual or bisexual practices, a percentage incidence of 12.5 per cent. Although the number attending was approximately equal (503 in 1982–83) that year showed a 22.86 per cent infection rate. Despite this fact, this incidence rate is higher than that occurring in the total male attendance (11.08%).

Gonorrhoea was responsible for 76.19 per cent of notifications and the following table shows details of the age and disease in homosexuals.

HOMOSEXUALS

Age	Gonorrhoea	Syphilis	Herpes	Other Forms	Total
15–19	8	..	2	2	12
20–24	11	..	..	2	13
25–29	8	..	2	1	11
30–34	11	2	..	2	15
35–39	2	..	..	..	2
40–44	..	1	..	1	2
45–49	1	..	..	..	1
50–54	3	..	..	..	3
55–59	1	..	..	..	1
60–64	1	..	..	..	1
65 & over ..	..	..	..	..	..
Not stated ..	2	..	..	..	2
Total	48	3	4	8	63

CONTACT TRACING

Of 69 persons notified as possible sources of infection, 55 were located and brought for investigation and the results of a further patient is awaited. Thirteen patients were not traced for a variety of reasons and those successfully traced represent 79.71 per cent of the total, a success rate slightly improved on the 73.41 per cent rate of 1982–83.

Division of Specialized Health Services

Medical Officer in Charge, Brisbane: A. M. PATEL, M.B., B.S., F.R.C.P., D.E.C.T., F.R.A.C.P.

Medical Officers: J. PATTEN, M.B., B.S., M.R.C.P. (Physician)
R. JACKSON, M.B., B.S.
T. KONSTANTINOS, M.B., B.S.
D. A. RUSSELL, M.B., B.S., D.P.H., F.R.A.C.M.A. (Part-time Consultant, Hansen's Disease)

Senior Nursing Sister in Charge: JEAN PARKER, S.R.N.

Officers in Charge of Subsections: Radiography and MMR: Mr M. LEWIS
Statistics and Computer Register: Mr E. BLIGHT
Social Work: Mrs L. REDMAYNE (Part-time)
Records: Mr R. LINNEWEBER

Nursing Sisters, supportive staff and secretarial personnel together number 56 as before.

Anti-tuberculosis services extending throughout the State are directed by the Chest Physicians/Medical Officer of Major Regional Hospital Boards:—

Cairns: J. E. Thompson, M.B., B.S., F.R.A.C.P., Chest Physician—Cairns Base Hospital;

Townsville: A. M. Matthiesson, M.B., B.S., F.R.A.C.P., Chest Physician—Townsville General Hospital;

Rockhampton: D. W. Kane, M.B., B.S., F.R.A.C.P., Chest Physician (Part-time)—Rockhampton General Hospital;

Toowoomba: B. W. Park, M.B., B.S., Medical Officer —Toowoomba General Hospital

This historical arrangement forms an on-going efficient regional autonomous tuberculosis control functioning in close consultation with the centre in Brisbane. The Central Chest Clinic in Brisbane and these annexes have various country chest clinics which not only offer tuberculosis diagnostic, treatment and preventive services, but provide consultative chest clinic services well into the periphery. Patient coverage is Queensland-wide and includes remote communities in the North and West as well as in the Torres Strait Islands.

In January, 1984, Tuberculosis, Hansen's Disease and Chest Diseases Services became a part of the newly formed Division of Specialized Health Services. Sexually Transmitted Diseases (STD) Services will subsequently become an integral part of the activities of this new Division.

MAIN NOTEWORTHY EVENTS IN THE DIVISION

A coal miners' chest X-ray survey (joint Coal Board/ Department of Health venture) has been completed and the initial report from the Coal Board published. Detailed outcome analysis is in progress.

Preliminary work in conducting a retrospective case control study to assess the effectiveness of school's B.C.G. programme has begun. The study may clarify aspects of B.C.G. vaccination's contribution to the prevention of tuberculosis.

Active tuberculosis case finding programmes are being contracted to make them cost effective. Individuals at high risk for tuberculosis are regularly recalled. However, one of the many higher risk subgroups is currently condensed because of the non-recall of individuals with a relatively lower risk of tuberculosis.

Special tuberculosis case finding surveys near Mount Isa, at Woorabinda and at the Boggo Road and Wacol Prison did not indicate any unusual amount of tuberculosis despite a potential for tuberculosis transmission. However, tuberculosis infected individuals are being followed up closely.

Dr Konstantinos completed an in-service training programme in different countries overseas. He returned with wider experience in tuberculosis which will be of significant benefit to us in Queensland, in handling diverse residual tuberculosis problems.

In-service training programmes for medical officers and nursing sisters in aspects of Hansen's disease and sexually transmitted diseases are in progress.

TUBERCULOSIS CONTROL

CHEST CLINICS

The Brisbane Chest Clinic continues to serve as the administrative centre for tuberculosis control with its State-wide functions of direction, co-ordination and surveillance of various anti-tuberculosis activities. This is becoming increasingly complex because of the changing tuberculosis scene as a result of a wider spectrum of doctors diagnosing and treating tuberculosis. The clinic also functions as a consultative clinic not dissimilar to a major hospital chest clinic dealing with both tuberculous and non-tuberculous respiratory diseases.

The table following shows the workload patterns. This has changed little in the last four years. An estimated 20 per cent shortage of doctors' time has been addressed by the recent addition of a medical officer position to establishment.

CHEST CLINIC BRISBANE TOTAL "CLINICAL WORKLOAD"
(Nursing Workload Excluded)

Period (Calendar Years)	Patient Consultations and Clinical Reviews		Chest X-rays Read/Reviewed		Total		
	A Brisbane Chest Clinic	B Brisbane Area Country Chest Clinics	C Micro Films	D XRO Large Standard	E Patients Chest X-rays	F Reviews Patient/X-rays	G All Actions
1983	10 241	2 358	17 001	4 637	9 142	34 237	43 379
1982	10 679	2 821	19 865	1 767			
1981	10 202	2 739	19 518	2 567			
1980	10 480	2 903	17 208	3 001			
(6 Months) 1.1.84–30.6.84	3 874	1 179	8 494	2 480	4 342	16 028	20 370
	(x2) = 9 434	(x2) = 2 172	(x2) = 16 988	(x2) = 4 960			(x2) = 40 740

Patterns of chest clinic attendances are similar throughout Queensland, and cover almost all age groups. The table below shows a typical chest clinic workload and pattern (at the annexes) which is similar to that of the Brisbane Chest Clinic. Tuberculosis coverage and respiratory disease consultation work is apparent. For traditional reasons and due to geographical convenience, both at the Brisbane clinic and at the chest clinics of annexes, reduction or diversion of this patient workload is difficult. Also, a consultative role for non-tuberculosis respiratory diseases is not strictly separable from that for tuberculosis, and hence, this aspect of the services remains important.

TOTAL CLINIC AND OUTPATIENT ATTENDANCES FOR THE CAIRNS, TOWNSVILLE, ROCKHAMPTOM AND TOOWOOMBA CHEST CLINICS
Showing Diagnosis and Age Groups of Patients for the Year Ending 31st December 1983

Age	A Pulmonary Active	B Inactive TB	C Non-Pulmonary TB	D Malignant	E Other Respiratory Diseases	F Under Investigation	G No Significant	Total
0–14	19	78	87	. .	382	56	151	773
15–19	2	31	10	. .	275	35	464	817
20–24	34	23	14	. .	191	48	469	779
25–29	21	46	25	. .	269	42	275	678
30–34	15	77	15	2	382	34	205	730
35–39	19	104	34	. .	386	41	225	809
40–44	31	111	17	10	347	42	172	730
45–49	20	158	47	44	508	55	120	952
50–54	35	303	24	51	527	54	108	1 102
55–59	31	424	44	59	686	59	113	1 416
60–64	25	498	43	81	678	66	100	1 491
65–69	16	456	55	99	706	39	63	1 434
70–74	11	368	33	97	606	33	43	1 191
75 +	17	377	27	72	435	37	43	1 008
Not Stated	. .	32	2	. .	27	. .	44	105
Totals	292	3 090	477	515	6 405	641	2 595	14 015

Chest X-ray services at the Brisbane Chest Clinic continue to be fully extended. There are a large number of "patient-related" X-rays during consultations as well as chest X-rays referred for opinion by outlying hospitals. However, distinct from these groups, the following table shows the breakdown figures of chest X-rays taken for other reasons. Some 22 per cent of all such X-rays taken in the first six months of 1984 were for "self-referrals" to the chest clinic, and this number is quite large (1 873 in 6 months). Referrals from School Health Services and Government Medical Officers made up another 40 per cent of such X-rays and private doctor referrals about 8–10 per cent.

Hidden expenses, resulting from need for larger X-rays, special views and repeat films constitute additional problems of logistics, finance and time.

REASONS FOR PERSONS ATTENDING FOR CHEST X-RAYS
(USUALLY 100 mm)
January–June 1984

1. Non-referrals (own accord)	1 873	(22%)
2. "Computer" letters to higher TB risk individuals	101	
3. Referrals by doctors (family physician, specialists, etc.)	645	(8%)
4. Government Medical Officer	2 222	(26%)
5. Nursing profession	813	(10%)
6. Tuberculosis contacts	654	(8%)
7. Immigration	234	
8. Drug Dependence Unit	204	
9. Vietnamese	269	
10. Adoptions	53	
11. National Heart Foundation	63	
12. School Health Services	1 149	(13%)
13. Staff	2	
14. Metropolitan Fire Brigade	4	
15. Mercantile Marines	89	
16. Maternal and Child Health	54	
17. Commonwealth Medical Officer	15	
18. Qld. Electrical Generating Board	23	
19. Blue Nursing	1	
20. Scuba Diving	21	
21. Coal Board	2	
22. Department of Veterans' Affairs	4	
TOTAL	8 495	

NOTIFICATIONS AND TRENDS

General

As in the preceding year, all data is presented and analysed on the basis of a calendar year. The last National Tuberculosis Advisory Council Meeting has strongly recommended such an approach to enable proper comparisons. The following table shows a total of new tuberculosis notifications during 1983 of 144; apparently a drop from 187 from the previous year. Excluding 23 atypical tuberculosis (compared to 49 last year) the figure of 121 newly notified typical tuberculosis cases in 1983 compares with 138 in 1982. Of these 121 newly notified tuberculosis cases, 74 were males (67 pulmonary tuberculosis). Male to female ratios were 1:1.3 for (typical) tuberculosis as a whole and 1:1.6 for (typical) pulmonary tuberculosis. Most of the atypical tuberculosis notified has been in patients over the age of 35 and would reflect under-notification of common childhood cervical atypical tuberculosis of lymphnodes.

ALL "TUBERCULOSIS" (TYPICAL AND ATYPICAL) NOTIFICATIONS FOR THE CALENDAR YEAR ENDING 31st DECEMBER, 1983
Presenting Radiological Extent of Disease in Age Groups
(Relapsed and Transfer-in Cases *Excluded*)

Age Group	Males						Females						Persons						Typical and Atypical (Total) Cases
	Pulm. Typical			Pulm.	Non Pulm.		Pulm. Typical			Pulm.	Non Pulm.		Pulm. Typical			Pulm.	Non Pulm.		
	Min	Mod	Adv	Atyp	Typ	Atyp	Min	Mod	Adv	Atyp	Typ	Atyp	Min	Mod	Adv	Atyp	Typ	Atyp	
0–4	1						1						2						2
5–9							2				1		2				1		3
10–14																			. .
15–19	1				1		2						3				1		4
20–24	1	1							1				1	1	1				3
25–29	2	1			1		5	1					7	2			1		10
30–34	2	1			1	1	1						3	1			1	1	6
35–39	2			1	1		4	3	1				6	3	1	1	1		12
40–44	5	4	1				3	1					8	5	1				14
45–49	4			2			2						6			2			8
50–54	1	3			1				1		1		1	3	1		2		7
55–59	1	2		4		1	3			1			4	2		5		1	12
60–64	2	4	1	1	2		1	1		4	1		3	5	1	5	3		17
65–69	3	1	1	2			3			1	1		6	1	1	3	1		12
70–74	3	2	1	2					1				3	2	2	2			9
75+	6	8	2	2				2	2		2	1	6	10	4	2	2	1	25
Not Stated																			
Total	34	27	6	14	7	2	27	8	6	6	6	1	61	35	12	20	13	3	144

Morbidity

The importance of characterizing the bacteriological status of typical tuberculosis is increasingly appreciated. In future, central statistics provided from Canberra will reflect this change. The following two tables give the breakdown figures of typical tuberculosis, newly notified in 1983, in different age groups, according to their bacteriological status. The second table shows the rates of such tuberculosis in each age group.

Some 72 per cent of all newly diagnosed typical tuberculosis cases in 1983 were bacteriologically positive. However, with respect to (infectious) pulmonary tuberculosis, the percentage of bacteriological positivity increased with the extent of radiological disease. A large number of moderately advanced and advanced tuberculosis were also smear and culture positive. These trends reflect a continuing desirable dependence on bacteriological diagnosis, but they may also indicate a possible tendency towards late diagnosis of tuberculosis since the closure of MMR surveys.

TUBERCULOSIS NOTIFICATION (TYPICAL ONLY) FOR THE CALENDAR YEAR ENDING DECEMBER 1983
Presenting Radiological Extent of Disease and Bacteriological Status in Age Groups
(Relapsed and Transfer-in Cases Excluded)

Age Group	Males				Females				Persons				Total Typical New Cases
	Pulm. Typical			Non Pulm. Typical	Pulm. Typical			Non Pulm. Typical	Pulm. Typical			Non Pulm. Typical	
	Min	Mod	Adv		Min	Mod	Adv		Min	Mod	Adv		
0–4	1C+				1Neg				1C+ 1Neg				2
5–9					1C+ 1Neg			1Neg	1C+ 1Neg			1Neg	3
10–14													. .
15–19	1C+			1C+	2Neg				1C+ 2Neg			1C+	4
20–24	1S+	1C+					1SC+		1S+	1C+	1SC+		3
25–29	1C+ 1Neg	1C+		1Neg	1SC+ 2C+ 2Neg	1SC+			1SC+ 3C+ 3Neg	1SC+ 1C+		1Neg	10
30–34	1SC+ 1Neg	1Neg		1C+	1Neg				1SC+ 2Neg	1Neg		1C+	5
35–39	1C+ 1Neg	. .		1SC+	4Neg	3SC+	1SC+		1C+ 5Neg	3SC+	1SC+	1SC+	11
40–44	2SC+ 2C+ 1Neg	3SC+ 1C+	1SC+		1C+ 2Neg	1SC+			2SC+ 3C+ 3Neg	4SC+ 1C+	1SC+		14
45–49	2SC+ 1C+ 1Neg	. .			1SC+ 1C+				3SC+ 2C+ 1Neg				6
50–54	1Neg	2SC+ 1C+		1Neg			1SC+	1C+	1Neg	2SC+ 1C+	1SC+	1C+ 1Neg	7
55–59	1SC+	2SC+			2SC+ 1Neg				3SC+ 1Neg	2SC+			6
60–64	1SC+ 1C+	2SC+ 1C+ 1Neg	1SC+	1C+ 1Neg	1C+	1Neg		1Neg	1SC+ 2C+	2SC+ 1C+ 2Neg	1SC+	1C+ 2Neg	12
65–69	1SC+ 2Neg	1C+	1C+		1SC+ 2C+			1Neg	2SC+ 5C+ 5Neg	1C+	1C+	1Neg	9
70–74	2SC+ 1Neg	2SC+	1SC+				1SC+		2SC+ 1Neg	2SC+	2SC+		7
75+	3SC+ 3C+	7SC+ 1C+	2SC+			1SC+ 1Neg	2SC+	2C+	3SC+ 3C+	8SC+ 1C+ 1Neg	4SC+	2C+	22
Not Stated													
Totals	34	27	6	7	27	8	6	6	61	35	12	13	121
Bact. Neg.	(9)	(2)	(–)	(3)	(14)	(2)	(–)	(3)	(23)	(4)	(–)	(6)	(33)
Bact. Pos.	(25)	(25)	(6)	(4)	(13)	(6)	(6)	(3)	(38)	(31)	(12)	(7)	(88)
S+C+	14	18	5		5	6	6		19	24	11		54
% Bact. Pos.	73%	66%	100%		48%	75%	100%		62%	88%	100%		72%
% S+C+ of Bact. Positive	56%	72%	83%		38%	100%	100%		50%	77%	91%		61%

Examination of the rates of tuberculosis per 100 000 population in the following table shows a continuing disproportionate, but constant yield of new tuberculosis from patients above the age of 45; almost certainly tuberculous disease resulting from their old infections. A downward trend of new tuberculosis disease amongst the young would indicate a desirable degree of tuberculosis control.

TUBERCULOSIS NOTIFICATIONS (TYPICAL ONLY) FOR THE CALENDAR YEAR ENDING 31st DECEMBER, 1984
(Relapsed or Transfers-in Excluded)
Showing Rate per 100 000 of age groups and State of Disease (Actual Number of Cases in Brackets)

Age Group	Males				Females				Persons				Total Typical New Cases
	Pulm. Typical			Non Pulm.	Pulm. Typical			Non Pulm.	Pulm. Typical			Non Pulm.	
	Min	Mod	Adv	Typical	Min	Mod	Adv	Typical	Min	Mod	Adv	Typical	
0–4	(1) 1.01				(1) 1.07				(2) 1.04				2
5–9					(2) 1.97			(1) 0.99	(2) 0.96			(1) 0.96	3
10–14													. .
15–19	(1) 0.94			(1) 0.94	(2) 1.94				(3) 1.43			(1) 1.43	4
20–24	(1) 0.90	(1) 0.90					(1) 0.95		(1) 0.46	(1) 0.46	(1) 0.46		3
25–29	(2) 1.97	(1) 0.99		(1) 0.99	(5) 5.19	(1) 1.04			(7) 3.54	(2) 1.01		(1) 0.51	10
30–34	(2) 2.03	(1) 1.02		(1) 1.02	(1) 1.06				(3) 1.56	(1) 1.56		(1) 1.56	5
35–39	(2) 2.32	. .		(1) 1.16	(4) 4.84	(3) 3.63	(1) 1.21		(6) 3.55	(3) 1.77	(1) 0.59	(1) 0.59	11
40–44	(5) 7.20	(4) 5.76	(1) 1.44	. .	(3) 4.60	(1) 1.53			(8) 5.94	(5) 3.71	(1) 0.74		14
45–49	(4) 6.85	. .		. .	(2) 3.63				(6) 5.28	. .			6
50–54	(1) 1.71	(3) 5.12		(1) 1.71			(1) 1.77	(1) 1.77	(1) 0.87	(3) 2.60	(1) 0.87	(2) 1.74	7
55–59	(1) 1.77	(2) 3.54			(3) 5.45				(4) 3.59	(2) 1.79			6
60–64	(2) 4.12	(4) 8.23	(1) 2.06	(2) 4.12	(1) 1.93	(1) 1.93		(1) 1.93	(3) 2.99	(5) 4.98	(1) 1.00	(3) 2.99	12
65–69	(3) 7.44	(1) 2.48	(1) 2.48		(3) 6.64			(1) 2.21	(6) 7.01	(1) 1.17	(1) 1.17	(1) 1.17	9
70–74	(3) 10.16	(2) 6.77	(1) 3.39				(1) 2.81		(3) 4.61	(2) 3.07	(2) 3.07		7
75+	(6) 18.58	(8) 24.77	(2) 6.19			(2) 3.87	(2) 3.87	(2) 3.87	(6) 7.15	(10) 11.92	(4) 4.77	(2) 2.38	22
Not Stated													
Totals	34	27	6	7	27	8		6	61	35	12	13	121

Bacteriologically positive typical pulmonary tuberculosis has remained unchanged. The next table summarizes this situation giving a clearer comparison, enabling further surveillance of this epidemiologically sensitive index. Incidence of smear and culture positive tuberculosis amongst the white Australian born patients would indirectly suggest that the Australian general risk of tuberculosis infection is probably between 0.05 per cent and 0.02 per cent per annum. This is a low rate and compares favourably with some Western European countries. This small risk of tuberculosis is expected to continue to decline even further in the foreseeable future if vigilance and control of tuberculosis are maintained. The substantial drop in notification of non-pulmonary tuberculosis in 1983 compared with that in 1982 may be an artefact resulting from lesser tuberculosis disease among South East Asian migrants in 1983 (see later).

BREAKDOWN FIGURES OF MAIN GROUPS
(10 Re-activated Cases Not Included)

		1983	*1982*
I Typical Tuberculosis			
(A) Pulmonary Tuberculosis bacteriologically (+)	=	81	79
(B) Non Pulmonary Tuberculosis bacteriologically (+)	=	7	15
(C) All bacteriologically (+) typical Tuberculosis	=	88	94
(D) Pulmonary Tuberculosis bacteriologically (−)	=	27	40
(E) Non Pulmonary Tuberculosis bacteriologically (−)	=	6	5
(F) All bacteriologically (−) typical Tuberculosis	=	33	45
(G) All Pulmonary Tuberculosis (typical) = A + D	=	108	119
(H) All Non Pulmonary Tuberculosis (typical) = B + E	=	13	20
(I) All typical Tuberculosis	=	121	139
II Atypical Tuberculosis Notified			
(J) Pulmonary Tuberculosis	=	20	37
(K) Non Pulmonary Tuberculosis	=	3	12
(L) Total Atypical Tuberculosis	=	23	49
III All Notified New Cases of Tuberculosis = I + L	=	144	188

N.B.:—(A)–54 i.e. (66%) of Bacteriologically Positive were smear and culture positive (1982: —(78%)).

Trends

The trend of new typical tuberculosis from 1979 to 1983 continues to show a sustained decline as expected, being short of the ideal (of halving itself in five years) probably because of inflated figures through notifications of minimal tuberculosis among South-East Asian refugees. The tables below reflect these changes and highlight a need for monitoring the situation through differential statistics. Further characterization of these trends among different ethnic groups should improve surveillance of tuberculosis and suggest cost-effective solutions of specific problems.

COMPARISON OF TUBERCULOSIS NOTIFICATIONS—CALENDAR 1979–1983
According to Type and Bacteriological Status
(Relapsed and Transfer in Cases Not Included)

Year	Pulmonary					Non Pulmonary							Total Pulmonary and Non Pulmonary All Cases
	Typical						Typical		Atypical	Typical		Atypical	
	No. of Typical	Smear and Culture Positive	Culture Only Positive	Neg and not Tested	No. of Atypical	No. of Typical	Bact. Positive	Neg and Not Tested	(Pos)	Total Proven	Total Cases	All Cases	
1979	155	— 112—		43	23	19	8	11	5	120	194	28	225
1980	219	— 125—		94	15	26	14	12	10	139	245	25	270
1981	137	57	20	60	26	15	13	2	9	90	152	35	187
1982	119	62	19	38	37	20	15	5	12	97	139	49	188
1983	108	54	27	27	20	13	7	6	3	88	121	23	144

Against the background of declining new tuberculosis, the proportion of bacteriologically positive tuberculosis each year tends to remain constant, probably an indication of the independent nature of such tuberculosis with its special epidemiological implications. This trend is shown in the table below.

NOTIFIED TUBERCULOSIS (TYPICAL ONLY)
Five-year Comparison with Current Year
(Re-activated Cases Excluded)

Calendar Year	A Typical Pulmonary and Non Pulmonary Tuberculosis	B Bacteriologically Proven	% Age "B" of "A"	C Typical Pulmonary Tuberculosis Alone	D Bacteriologically Proven Pulmonary Tuberculosis	E % Age "D" of "C"
1972	206	174	84.46	185	159	85.94
1977	183	138	75.41	164	132	80.48
1982	139	94	67.62	119	79	66.38
1983	121	88	72.72	108	81	75.00

The proportion of tuberculosis in the age group above 45 has remained more or less unchanged over the years since 1966, as seen in the following table. Also, in recent years, the number of patients notified for tuberculosis in this age group has stopped declining. These are expected trends as most of the tuberculosis in this age group results from old infections. The impact of ongoing anti-tuberculosis measures aimed at maintaining an advanced stage of tuberculosis control will show a drop in tuberculosis among the older population in future. A progressive drop of tuberculosis, if maintained, will not only show these secular changes, but should also indicate possible "halving" of the incidence of new tuberculosis every five or six years in the near future.

TUBERCULOSIS NOTIFICATIONS (TYPICAL ONLY) FIVE-YEARLY COMPARISONS
(Re-activated Cases Excluded)
Proportionate Tuberculosis Young and Old

Full Year	A Total Cases	B Total Cases in Ages Above 45 Years	Percentage B of A
1966–1967	500	341	68.2%
1971–1972	214	143	66.8%
1976–1977	188	139	73.9%
1981–1982	136	75	55.1%
Also 1983 Calendar Year	121	69	57.02%

Despite obvious reservations with which one can confidently interpret the radiological extent of tuberculosis in relationship to its severity, the table below indicates little change in the proportion of advanced disease in 1982 and 1983. This may merely be a random variation, but it could also indicate delayed diagnosis. With the closure of MMR-related active case finding, primary care physicians must maintain a high index of tuberculosis suspicion and deliberately look for tuberculosis in patients at an early stage of investigation.

COMPARISON OF PULMONARY TUBERCULOSIS NOTIFICATIONS IN THE PAST FIVE YEARS SHOWING EXTENT OF DISEASE
New Cases Typical Only

Extent of Disease	1979		1980		1981		1982		1983	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Minimal	115	67.25	141	66.20	82	63.08	64	55.17	61	56.48
Moderate	48	28.07	54	25.35	38	29.23	38	32.76	35	32.41
Advanced	8	4.68	18	8.45	10	7.69	14	12.07	12	11.11
Total Typical Pulm.	171	100.00	213	100.00	130	100.00	116	100.00	108	100.00
Add—Primary Cases	3		4		3		3		. .	
Pleural Effusion	4		2		4		. .		. .	
Non-Pulmonary	19		26		15		20		13	
Total Typical Cases	197		245		187		139		121	
Notified Atypicals	28		25		35		49		23	
Cases Shown in Report	225		270		187		188		144	

Re-activations

Re-activated cases of tuberculosis often suggest less than satisfactory medical care or poor patient compliance. Both of these factors may be operative now that tuberculosis treatment is widespread. However, at this stage, as seen in the following table, only six cases of typical tuberculosis re-activated in 1983; a small enough number but a reminder of a potential danger.

RE-ACTIVATED CASES OF TUBERCULOSIS FOR THE YEAR ENDED 31st DECEMBER, 1983
Showing Age, Sex, and State of Disease (Note Number of Atypicals Included Shown in Brackets)

Age Group	Males				Females				Persons				Total Typical New Cases
	Pulm. Typical			Non Pulm.	Pulm. Typical			Non Pulm.	Pulm. Typical			Non Pulm.	
	Min	Mod	Adv	Typical	Min	Mod	Adv	Typical	Min	Mod	Adv	Typical	
0–4													
5–9													
10–14													
15–19													
20–24													
25–29													
30–34	1								1				1
35–39													
40–44													
45–49													
50–54													
55–59						1				1			1
60–64		2(1)								2 (1)			2 (1)
65–69													
70–74	2 (1)	2 (2)							2 (1)	2 (2)			4 (3)
75 +		2								2			2
Not Stated													
Totals	3 (1)	6 (3)				1			3 (1)	7 (3)			10 (4)

Bacteriology

Considering isolates of typical tuberculosis organisms (MTB, *M. Africanum*, *M. bovis*) separately, the following table shows an unexpected upward trend of both pulmonary and non-pulmonary tuberculosis isolates after 1982. Again, the numbers are small, but a separate close surveillance of this trend in infectious tuberculosis is desirable to detect possible problem areas resulting in delayed diagnosis. (For further details refer to the report of the Division of Laboratory Services.)

ISOLATIONS OF M. TUBERCULOSIS AND M. BOVIS FROM NEW PATIENTS

———	1967	1972	1977	1982	1983	Total
Pulmonary—						
M. Tuberculosis	203	156	127	66	78	630
M. Bovine	0	3	5	3	2	13
				1 africanum		1
Non Pulmonary—						
M. Tuberculosis	8	14	6	6	10	44
M. Bovine	0	1	0	0	0	1
Total	211	174	138	76	90	689

Summary

An overall decline of tuberculosis morbidity and mortality is shown below in sample years. Since the advent of systematic tuberculosis case finding and its effective chemotherapy after 1950, there has been a sustained drop in these indices. Peaking of tuberculosis notifications noted in 1952–53, which lasted well beyond 1970, resulted from planned mass active tuberculosis case finding.

Deaths associated with tuberculosis have reduced at an even greater rate, even during peak tuberculosis case finding periods, because of the vastly improved treatment of tuberculosis. The tuberculosis notification/death ratio of 2:1 in the 1950s dropped to 12:1 by 1982. This ratio becomes even more favourable if separate comparisons are made for typical tuberculosis.

TUBERCULOSIS NOTIFICATIONS AND DEATH RATES PER 100 000 MEAN POPULATION OF QUEENSLAND

Notifications (N)			Deaths Associated with TB (D)			
Year	Number	Rate	Year	Number	Rate	D% of N
1949–1950	513	43.1				
			1951	226	18.4	40%
1952–1953	943	74.1				
			1954	140	10.6	15%
1967–1968	512	29.8				
			1969	51	2.9	9%
1971–1972	248	13.6				
			1973	12	0.6	4%
1978–1979	231	10.6				
			1980	17	0.7	7%
1981–1982	195	8.5				
			1982	12		6%
1983	144	6.0				

MIGRANTS AND SOUTH-EAST ASIANS

Migrant and South-east Asian groups show a varying tuberculosis burden. The table below shows this difference in newly notified (typical) tuberculosis among the groups. In terms of general impact, tuberculosis incidence rates reflect the state of tuberculosis in the country of origin. Countries of Western Europe have the lowest rates and our neighbouring countries the highest. Within five years of settlement the higher rates of tuberculosis drop significantly, but tend to remain higher than the low rate for local tuberculosis.

COMPARISON BETWEEN THE RATES PER 100 000 POPULATION OF AUSTRALIAN-BORN AND OF MIGRANTS FOR 121 NEWLY NOTIFIED CASES OF (TYPICAL) TUBERCULOSIS

Queensland Calender Year 1983

Country of Birth	Number of Cases Discovered 1983	No. Est. Pop. Based on 1981 Census	Rate of Tuberculosis per 100 000 persons
1. Australian-born	74 (15)*	1 977 508	3.8
2. New Zealand.......	Nil	Ni	
3. United Kingdom.....	4	147 445	
4. Germany.....	Nil	Nil	
5. Switzerland .	Nil	Nil	
6. Holland.......	1	12 914	
7. Denmark.....	1	1 718	
8. Austria........	1	1 901	
9. U.S.A.	1	5 275	
10. Greece........	1	4 192	16
11. Italy............	1	17 956	
12. Hungary......	1	1 899	
13. Poland........	1	4 181	
14. Ukraine.......	1	2 239	
15. Indo-Chinese.......	14	3 508	72
16. Indonesia....	1	8 620	
17. Philippines..	8	1 404	
18. India...........	2	2 938	
19. Papua New Guinea........	4	7 914	
20. Hong Kong..	2	11 164	
21. China..........	2	2 774	
22. Korea	1	8 620	
Total	121		

* Indigenous Australians.

Special diagnostic and preventive measures among migrants and selective surveillance in the ensuing years of settlement would be an important on-going anti-tuberculosis exercise. The table below shows a steady contribution of tuberculosis by migrants of 38%, despite the drop of notification of tuberculosis among South-East Asians, counter balanced probably by tuberculosis among other non-British migrants.

TUBERCULOSIS NOTIFICATIONS OF MIGRANTS

For the Calendar Year Ending 31-12-83
(New Typical Cases Only)

Arrival in Australia	British		Non-British		Indo-Chinese	
		(1982)		(1982)		(1982)
Within 1 Year	. .	(5)	13	(11)	9	(28)
Within 5 Years	. .	(3)	8	(2)	3	(–)
Over 5 Years	4	(–)	8	(5)	2	(–)
Total	4	(8)	29	(18)	14	(28)
Percentage of Total	8.6	(14.82)	61.7	(33.33)	29.7	(51.85)

Total number of migrants was 47 which = 38.84 per cent of notification of Typical Tuberculosis of 121 cases. (1982 = 38.85%)
(For comparison, figures for 1982 are included in brackets.)

Since 1979, there has been a sustained drop in notifications of new tuberculosis among South-East Asian refugees (and this is so despite similar arrivals in the last two years). Tuberculosis notifications among both other migrants and indigenous Australians has remained rather constant. It is, therefore, interesting to note that no significant reduction of (typical) tuberculosis has occurred among Australian born. This trend requires further selective monitoring in future.

TABLE SHOWING TUBERCULOSIS NOTIFICATIONS FOR THE PAST FIVE YEARS SHOWING COMPARISON OF MIGRANTS, AUSTRALIAN BORN AND INDIGENOUS AUSTRALIANS

New Cases Typical Only

——	1979		1980		1981		1982		1983	
	No.	%	No.	%	No.	%	No.	%	No.	%
Asian Refugees	62	31.47	56	22.86	47	30.9	28	17.98	14	11.57
Other Migrants	48	24.37	48	19.59	35	23.03	26	20.86	33	27.27
Australian Born	64	32.49	116	47.35	55	36.18	73	52.51	59	48.76
Indigenous Australians	23	11.67	25	10.20	15	9.87	12	8.60	15	12.40
Total Typical Cases	197	100.00	245	100.00	152	100.00	139	100.00	121	100.00
Notified Atypicals	28		25		35		49		23	
Cases Shown in Report	225		270		187		188		144	

Aboriginal and Torres Strait Islanders.

Trends on arrival for South-East Asian migrants are shown in the table below. There seems to be a real decrease in the number of notified tuberculosis cases since 1982, despite the same number of arrivals in 1983. This may reflect improvement in the tuberculosis treatment policy before entry. Pre-entry policies are reviewed periodically on advice of the National Tuberculosis Advisory Council of Australia. As noted in the table, a large proportion of such individuals are on isoniazid chemoprophylaxis. Appropriate screening for tuberculosis, adequate treatment and protection through B.C.G. vaccination, particularly for the young South-East Asians, and selective chemoprophylaxis provides sufficient coverage of this group. New arrivals through direct sponsorship may escape tuberculosis and other important health screening. Special effort will be required to avoid such omissions.

SOUTH-EAST ASIAN MIGRANTS

Year	No. of Arrivals Brisbane Chest Clinic	Under Treatment for Tuberculosis	Receiving INAH Chemoprophylaxis
1978–1979 . .	1 137	51	379
1979–1980 . .	1 116	58	433
1980–1981 . .	1 311	56	456
1981–1982 . .	944	33	305
1982	652	33	206
Jan.–Dec. 1983	620	16	206

INDIGENOUS AUSTRALIANS

Tuberculosis notification among the Aboriginal and Islander population remains four to five times that of non-Aboriginal Australians, although the rates are much lower than those prevailing in many neighbouring countries or among South-East Asian refugees. There is possibly a degree of underdiagnosis of tuberculosis among indigenous Australians. Local experience in Far North Queensland would suggest that a parallel tuberculosis control attempt at an earlier stage of tuberculosis infection through chemoprophylaxis is an attractive proposition, but one which has practical constraints.

There were no unusual features or patterns in the 15 newly notified cases of tuberculosis among indigenous Australians. The male, famale ratio was 1:1, one case was far advanced, but the remaining were mild, and moderate in radiological extent. Two of the 15 cases were non-pulmonary, and almost all were bacteriologically positive.

DIAGNOSIS AND TUBERCULOSIS CASE FINDING ACTIVITIES

Sources of Tuberculosis Notification

As noted in the following table, chest clinic and thoracic annexes continue to be the main source of (typical) tuberculosis notifications (60%).

SOURCES OF NOTIFICATION OF TUBERCULOSIS
(Atypicals Excluded)
Comparison of Past Five Years

	1979			1980			1981			1982			1983		
	No.	%		No.	%		No.	%		No.	%		No.	%	
Mobile Surveys	20	10.15		12	4.90		3	1.97		7	5.07		2	1.65	
Private Doctors—															
Direct	10	5.07		17	6.94		8	5.26		5	3.62		6	4.96	
Via Chest Clinic	8	4.06		4	1.63		3	1.97		13	9.42		8	6.61	
General Hospitals	45	22.85		47	19.18		21	13.82		30	21.74		20	16.53	
Repat Hospital	Nil			4	1.63		Nil			3	2.17		2	1.65	
Chest Clinic Brisbane . .	89	45.18	55.33	115	46.94	65.31	83	54.61	75.66	53	38.41	52.1	41	33.89	60.34
Chest Clinic, Annexes . .	20	10.15		45	18.37		32	21.05		19	13.77		32	26.45	
Death Cert.	5	2.54		1	0.41		2	1.32		7	5.07		10	8.26	
Special Surveys	Nil			Nil			Nil			1	0.73		Nil		
Total New Typical Pulm. and Non-Pulm.	197	100.00		245	100.00		152	100.00		139	100.00		121	100.00	
If Notified Atypicals Added	28			25			35			49			23		
Total Notifications	225			270			187			188			144		

Passive Case Finding

Hospitals also contribute to tuberculosis notifications, significantly among the symptomatics, but rather disproportionately in that some major metropolitan hospitals have a low yield of new tuberculosis. This would suggest the need for an urgent review of tuberculosis diagnostic programmes in low yield hospitals.

A higher index of suspicion of tuberculosis and its diagnosis by private doctors is most essential. Although private doctor's low contribution to the total notifications is partly explained by their referrals of symptomatics to chest clinics or hospitals, there is some indirect evidence of delayed diagnosis and underdiagnosis.

Diagnosis of tuberculosis at death (10%) is unacceptably high and to a degree preventable. Furthermore, early diagnosis of tuberculosis in a patient before unavoidable death allows action leading to the prompt interruption of the chain of tuberculosis transmission.

Active Case Finding

Although the yield of (new) tuberculosis through periodic X-rays of individuals at a greater risk of tuberculosis is higher (18:100 000) than the rates of notifications in the general population (6:100 000), the yield of tuberculosis in 1983 (one active case of tuberculosis for 4 000 X-rays) appears to be unacceptably low. However, this represents only non-metropolitan areas, and individuals, including those with only a tuberculin positive reaction (i.e. with a normal chest X-ray), who are gradually excluded from routine X-rays.

More specific active tuberculosis case finding activities will be geared towards old people and the socially disadvantaged.

RESULTS OF SURVEY OF HIGHER RISK GROUP FOR THE CALENDAR YEAR 1983 OF PERSONS CHEST X-RAYED IN THE BRISBANE COUNTRY AREA (EXCLUDING CITY)

Number Chests X-rayed	Number of Active Cases	Number of Active T.B. Cases per 1000 X-rays	Inactive Cases	Carcinoma	Cardiac Abnormality	Other Diseases	Under Investigation	No Significant Abnormality	No Action ISQ
Higher Risk Group	2	0.26	125	5	267	151	195	200	89
11679	+ 1 Atypical								
Casual Attendance 6862	Nil	Nil	(7:1 000)	(0.3:1 000)	(14:1 000)	(8:1 000)	(10:1 000)	(11:1 000)	(5:1 000)

TREATMENT AND DOMICILIARY VISITS

The standard shorter treatment regimen, of nine-months duration, uses Rifampicin and INAH throughout, supplemented with Streptomycin or Ethambutol for the initial two months. We now also have a six-month duration regimen which is acceptable if the nine-month regimen is supplemented by Pyrazinamide in the initial two months. There is no satisfactory evidence that treatment with different drugs for six or nine months is sufficient to produce both satisfactory resolution of the disease and a negligible relapse rate. It cannot be sufficiently emphasized that, if treatment is interrupted by patient default, by toxicity, or any other cause, a longer period of treatment will be necessary. Expert advice should be obtained under these circumstances.

The drug treatment of atypical tuberculosis (tuberculosis caused by atypical tubercule bacilii) is as yet most unsatisfactory. There is little evidence in the majority of cases that the course of the disease is much altered by treatment even with four or more drugs used at the same time. When possible, surgical resection gives more satisfactory results than drug treatment, but unfortunately few patients present with sufficiently limited disease for this treatment to be possible.

As a wider spectrum of doctors treat tuberculosis, it may be forgotten that *drug* treatment of tuberculosis reaches expected levels of success only through the team work of the public health related functions of many individuals. Monitoring of patients under treatment should be undertaken to ensure regularity with drugs and to identify default-action. Inadequate monitoring remains a major constraint to achieving excellent results in actual practice. Domiciliary visits remain the best proven available insurance against non-compliance.

The table below shows the profile of domiciliary visits for 1983. Fewer than one home visit every two months for a patient on treatment as noted, falls short of the optimum for such visits. Adequate nursing staff, available cars and the co-operation of treating doctors are all essential for total success in the treatment of tuberculosis.

Prompt notification by doctors and early contact with the chest clinic ensures regularity of treatment. In addition, adequate documentation and feedback of data to the clinic allows the early detection of treatment failure, and establishes the surveillance of quality of treatment, with its in-service doctor's orientation trade-off.

DOMICILIARY VISITS 1983

Metropolitan—	
Index Patients on Chemotherapy	897
Contacts of Index Patients	88
B.C.G. Administration for Infants and Contacts	115
Follow-up of Non-attenders	78
Doctors' Requests	283
Total	1461
Prince Charles Hospital—	
Country Index Patients	38
Brisbane Division Country Area Visits —	
Index Patients, Non-attenders, etc.	94
Hospitals	16
Staff Contacts	377

TUBERCULIN TESTS AND B.C.G. VACCINATION

Tuberculin testing and B.C.G. vaccination for individuals at special risk, and as a part of contact screening, are continuing. For special sub-segments of the population (e.g. indigenous Australians, migrants and so on), B.C.G. vaccination is offered at an earlier age, preferably at birth, conveniently at the maternity units of hospitals throughout Queensland. For these subgroups, merging B.C.G. vaccination with other immunization programmes in childhood, is essential. Routine annual school vaccinations in Queensland may be reviewed after the results of a current retrospective study of B.C.G. effectiveness.

The following tables give the breakdown of vaccinations for 1983, illustrating a high coverage rate. As B.C.G. protects against early tuberculosis and its complications, high cost benefits may be more relevant to its continuation than its apparent low cost effectiveness. In the following table, the greater prevalence of Heaf Gr. I and II in country schools than in metropolitan schools following skin testing, is striking. This may reflect a greater sensitization of country children with atypical infections, although a proportion of this difference might represent the prevalence of greater tuberculin positivity among indigenous Australians.

TUBERCULIN TESTS AND B.C.G. VACCINATIONS FOR JANUARY–DECEMBER, 1983

					Mantoux Results							Heaf Results							
					Human 0–9 mm Avian <5 mm		Human 0–9 mm Avian >5 mm	Human 10–14 mm		Human >15mm	Neg	Natural Positive			Positive After Previous BCG				
———	Number Tested	Type of Test		DNR											Positive			Given BCG	Not Given or Refused BCG
		Heaf	Mantoux		Hum 0–5 mm	Hum 6–9 mm		AV <5 mm	AV >5 mm			GR. 1	GR 2	GR 3/4	GR 1/2	Gr 3/4	Neg		
Metropolitan	5 168	3 993	945	230	168	12	199	12	218	336	1 150	702	165	77	1 244	26	629	1 572	207
%		77.3	18.3	4.4	17.8	1.3	21.0	1.3	23.1	35.5	28.8	17.6	4.1	1.9	31.2	0.6	15.8	28.0	3.7
Country	4 522	3 037	1 078	407	397	40	318	40	141	142	971	230	434	103	828	54	417	981	407
%		67.2	23.8	9.0	36.8	3.7	29.5	3.7	13.1	13.2	32.0	7.6	14.3	3.4	27.3	1.8	13.7	21.7	9.0
Metropolitan and Brisbane Division Schools	27 806	26 468		1 338							24 135	1 227	65	12	666	3	360	24 171	324
%				5.0							86.8	4.41	0.23	0.04	2.4	0.01	1.3	86.9	1.2
Country Schools	14 014	13 219	47	748	12	7	1	16	10	1	8 457	2 411	1 504	28	551	22	246	8 468	235
%		94.4	0.3	5.3	25.5	14.9	2.1	34.0	21.4	2.1	63.9	18.2	11.3	0.2	4.2	0.2	8.0	60.2	1.7
Total	51 510	46 717	2 070	2 723	577	59	518	68	369	479	34 713	4 570	2 168	220	3 289	105	1 652	35 192	1 173
%		90.7	4.0	5.3	27.9	2.9	25.0	3.3	17.8	23.1	74.3	9.8	4.6	0.5	7.0	0.2	3.6	72.1	2.4

In the following table, tuberculin skin testing and B.C.G. vaccination programmes for migrants show a higher tuberculin positive rate for the migrant group than for the general population. Consequently, as B.C.G. is not required when a positive response is obtained, fewer people in the migrant group are given B.C.G., resulting in apparently lower B.C.G. coverage. However, B.C.G. is provided to all individuals in Queensland who require such coverage.

TUBERCULIN TESTS AND B.C.G. VACCINATIONS OF MIGRANTS FOR JANUARY–DECEMBER, 1983

———	Number Tested	Type of Test		D N R	Mantoux Results						Heaf Results							Given BCG	Not Given or Refused BCG
					Human 0–9 mm Avian <5 mm		Human 0–9 mm Avian >5 mm	Human 10–14 mm		Human >15mm	Neg	Natural Positive			Positive After Previous BCG				
															Positive				
		Heaf	Mantoux		Hum 0–5 mm	Hum 6–9 mm		AV <5 mm	AV >5 mm			GR 1	GR 2	GR 3/4	GR 1/2	Gr 3/4	Neg		
Metropolitan	1 223	578	645	27	95	9	122	11	153	255	114	111	56	39	171	3	57	147	24
%		47.3	52.7	4.7	14.7	1.5	18.9	1.7	23.7	39.5	19.7	19.2	9.7	6.7	29.6	0.5	9.9	25.4	4.2
Country	365	216	149	28	36	6	34	8	26	32	47	13	40	24	34	16	21	26	42
%		59.2	40.8	7.7	24.2	4.0	22.8	5.5	17.4	21.5	6.0	18.5	11.1	15.7	7.4	9.7	21.8	12.0	19.4
Metropolitan and Brisbane Division Schools	2 886	2 886		148							2 063	185	41	8	288	2	151	2 173	41
%				5.1							71.5	6.4	1.4	0.3	10.0	0.1	5.2	75.3	1.4
Country Schools	312	310	2	11		1		1			131	51	60	8	35	1	13	138	6
%		99.4	0.6	3.5		50.0		50.0			42.3	16.5	19.4	2.6	11.3	0.3	4.2	44.5	2.0
Totals	4 786	3 990	796	214	131	16	156	20	179	287	2 355	360	197	79	528	22	242	2 484	113
%		83.4	16.6	4.5	16.5	2.0	19.6	2.5	22.5	36.1	59.0	9.0	4.9	2.0	13.2	0.5	6.1	62.3	2.8

SOCIAL WORK

The social worker continues to see a number of patients attending the clinic, who have been referred for assistance. Such clients are suffering with one or more types of illnesses, including tuberculosis, asthma, chronic bronchitis and emphysema, carcinoma and asbestosis. Assistance may be seen in the form of helping and advising clients with financial difficulties, accommodation problems, emotional support or with family and personal problems relating to their illness. The social effects of illness are many.

The social care analysis in the following table shows similar usage of services as was reported for 1982. Patients of all ages were reviewed and these include a number of migrants, particularly South-East Asian migrants.

Work with migrants is often aimed towards helping them understand their illness and the need for continuing treatment. This is especially important in the case of tuberculosis, where co-operation with the treatment regime and regular clinic attendances are essential.

During the year, assistance has been received from many agencies, including the Commonwealth Department of Social Security, Queensland Housing Commission, Department of Community Medicine, and Community Home Care Services, other State Government Services and The Prince Charles Hospital. Help from voluntary agencies such as Lifeline, and the Australian Tuberculosis and Chest Association is also gratefully acknowledged.

SOCIAL WORK CARE ANALYSIS

Cases carried forward from 31-12-82	52
New Clients	63
Re-opened Cases	7
Total	122
Number of cases still active at 31-12-83	40

SPECIAL ASPECTS

Atypical mycobacterial infections and diseases continue to pose special problems. Infections are common, interfering with interpretation of tuberculin testing and probably affecting the usefulness of B.C.G. vaccinations. Pulmonary disease due to atypicals is easily confused with typical tuberculosis, and response to treatment poor. Much experience and research in this field are necessary.

The chest clinic handles a large number of non-tuberculosis chest diseases requiring a well equipped chest clinic. Registerable chest physician(s) of this Division are also visiting thoracic physician(s) at The Prince Charles Hospital, where the activities include full in-patient/out-patient care of patients with diverse respiratory diseases and to be on on-call duty rosters. This historical link is most essential.

HANSEN'S DISEASE

TRAINING

The part-time consultant in Hansen's disease was transferred from the Division of Environmental and Occupational Health to the Division of Specialized Health Services in August 1983. As a result, in-service training in the diagnosis and management of Hansen's disease have been offered to all medical officers and nurses in the Division.

Teaching sessions have also been conducted for medical students as well as in-service training of Aboriginal Health Programme staff. Consultative services have been maintained with regard to other hospitals as well as visits to other areas in order to review patients.

NOTIFICATIONS

Sixteen new cases of Hansen's disease were notified during the year. Four of these were children: three Torres Strait Islanders and one Thursday Islander. The ethnic distribution of the new cases can be seen in the following table.

HANSEN'S DISEASE NOTIFICATION
1st July, 1983–30th June, 1984

Total	Caucasian	Aboriginal	Fijian	Chinese	Malaysian	Vietnamese	Papuans	Indonesians	Torres Strait Islanders	Thursday Islanders	Indian
16	4	1	1	0	0	1	1	0	4	3	1

The majority of the patients are from the far north and the Thursday Island and Torres Strait Islander groups. With the exception of the four children, which is suggestive of latent smouldering disease in their specific areas, the other patients were in advanced age groups, particularly the Caucasians (average age 60+ years).

With reference to the increase in the number of Caucasians detected with Hansen's disease, although the numbers are small, they are, as also in the case of other older patients, indicative of late manifestations of the disease as well as of a growing awareness of the medical authorities regarding Hansen's disease.

All patients are undergoing active supervised treatment and are progressing satisfactorily.

New cases of Hansen's disease notified annually for the period 1977 to 1983 are shown in the table below.

HANSEN'S DISEASE—QUEENSLAND
New Cases Notified 1977–1983 (Jan. to Dec.)

Year	Total	Caucasian	Aboriginal	Fijian	Chinese	Malaysian	Vietnamese	Papuans	Indonesians	Torres Strait Islanders	Thursday Islanders
1977	6	2	3	1	. .	. .	. .	. .	. .	. .	. .
1978	8	1	3	. .	1	1	. .	. .	. .	1	1
1979	10	3	5	1	. .	. .	1	. .	. .	. .	. .
1980	5	. .	2	. .	. .	. .	2	1	. .	. .	. .
1981	9	. .	4	. .	. .	. .	2	1	1	1	. .
1982	9	2	3	. .	. .	. .	4	. .	. .	. .	. .
1983	15	4	2	. .	. .	. .	1	1	. .	4	3

There are at present 226 registered Hansen's disease patients in Queensland and their geographical location and numbers according to ethnic groups, age, sex, and type of disease are shown in the following map and table.

HANSENS DISEASE QUEENSLAND 1983

Local Authority	Total	Male	Female
Far North	41	29	12
North West	13	9	4
Northern	39	24	15
Mackay	4	1	3
Fitzroy	17	14	3
Central West	1	1	0
South West	4	4	0
Darling Downs	2	1	1
Moreton	2	2	0
Wide Bay Burnett	15	10	5
Brisbane	74	47	27
Address Unknown	14	7	7
Total	226	149	77

HANSEN'S DISEASE QUEENSLAND AS OF 30th JUNE, 1984

		Total	Intermediate	Tuberculoid	Borderline Tuberculoid	Mid-Borderline	Borderline Lepromatous	Lepromatous	Polyneuritic
Caucasian	Male	56	. .	10	1	2	2	38	3
	Female	22	1	7	1			12	1
Aboriginal	Male	69		22		1	6	38	2
	Female	40		10		4	1	24	1
Thursday Island	Male	6		2			2	2	
	Female	5		2				2	1
Torres Strait	Male	3		1				2	
	Female	4		3	1				
Vietnamese	Male	5		2	1	1			1
	Female	4		1		2		1	
Papuans	Male	2					1	1	
	Female	2					1	1	
Fijian	Male	2		1	1				
	Female	0							
Indian	Male	1						1	
	Female	1		1					
Malay	Male	1					1		
	Female	. .							
Thai	Male	. .							
	Female	1		1					
Indonesian	Male	1		1					
	Female	. .							
Chinese	Male	1				1			
	Female	. .							
Total		226	1	64	5	11	14	122	9

Aboriginal Health Programme

Health Officer (Aboriginal Health): R. B. HAWES, M.B., B.S.(Lon.), D.T.M.&H.(Liv.)
Regional Medical Officers:
Southern: J. L. JAMESON, M.B., B.S.(Qld.), D.T.M.&H.(Syd.), M.P.H. (Michigan), F.A.C.M.A.
Central: R. P. DAVISON, M.B., B.S.(Qld.) D.T.M.&H. (Lond.), F.R.A.C.G.P. (to 25th November, 1983)
Northern: R. W. STREATFIELD, M.B., B.S.(Syd.), D.T.M.&H.(Syd), B. Pharm.

During 1983, an article ''Mortality rates in 14 Queensland Aboriginal reserve communities'' in the Medical Journal of Australia, while attracting considerable media publicity, ignored the known reduction in Aboriginal infant mortality rates in the same communities during the last decade. The Annual Report of the Department for the year 1977–78 indicated that Aboriginal mortality was higher at all ages for Aboriginals than for the total Queensland population. While the Aboriginal Health Programme accepts that mortality rates are higher in Aboriginals, it has reservations about the application of the conventional methods for standardization of mortality rates to communities with populations of less than 1 000 where the age composition is uncertain and where the number of vital events in any age group is often nil. Now that infant deaths, particularly from infections, have been reduced dramatically, the Aboriginal Health Programme is able to devote some resources to the detection and prevention of adult diseases. As stated in previous years, the object of the programme is to raise the standard of health of Aboriginals to that of the rest of the State's population.

The nursing service of the Aboriginal Health Programme has been in existence since 1972 and over that period its functions and activities have undergone change. In response to change, nurses have acquired new skills and expertise in the field of preventative and public health nursing, management and educational activities. Full-time nursing study is being undertaken by one nurse at the Queensland Institute of Technology. Another three nursing sisters are undertaking external studies for Diplomas. School Health examinations in remote areas are conducted by four public health nurses who have an extended role undertaking this work on behalf of and in conjunction with the Division of Child Health.

In-service training courses and regional workshops have constituted the main thrust of continuing education for Aboriginal Health Programme staff during 1983–84. Ten health assistants/health workers attended a six-week in-service training course in February–April 1984. This course included advanced skills in communication, planning and teaching, building upon the self-help health care skills workshops of 1982–83. The skills will be included in future training courses for health assistants/health workers and public health nurses. Three-week training courses for field officers were held at Mount Isa in October, 1983 and in Brisbane in May, 1984. The on-the-job training programme continues with new health assistants/health workers receiving instruction on the content of the training manuals in weekly team health education sessions. The manuals have been expanded to include planning, preparation and presentation material for all team members, to allow them to meet the health needs of communities. Information relevant to health assistant/health worker delivery has been emphasised.

Editing and production of team-prepared teaching kits aligned with the training manuals are proceeding. The kits have been designed as an aid to education programmes conducted in the community by the health teams. External inquiries regarding the teaching programme are met with discussion and provision of information. Each student nurse intake at Princess Alexandra Hospital and Royal Brisbane Hospital receives input on the health education programme and the health needs of Aborigines.

Combined general/skills workshops were held as follows:—

Southern Region—16 health assistants/health workers—July, 1983;
Northern Region—11 health assistants/health workers—July, 1983;
Northern Region—8 health assistants/health workers—July/August 1983;
Central Region—16 health assistants/health workers—August, 1983.

The three-day skills workshop for five Dietary-Nutrition Unit personnel in November, 1983 included two dietitian-nutritionists and three field officers.

The Hearing Conservation Unit consisting of one audiologist and three audiometrists screened 2 172 children for ear disease and hearing loss in 14 localities. Of these, 749 children were further assessed by ear, nose and throat registrars from Brisbane hospitals, who also provided a consultative service to medical personnel working in the remote areas visited. A pilot study to investigate middle ear disease patterns in childen aged less than five years has commenced. Staff are involved in the training of public health nurses and health assistants to undertake basic hearing assessments. This should enable more children to be screened each year as well as improve local follow-up and monitoring of children and adults with identified aural problems.

The Dietary-Nutrition Unit (D.N.U.) consists of two dietitian-nutritionists and four specially trained dietary-nutrition technicians of Aboriginal or Islander descent. One dietary technician has been trained this year and one dietitian oriented. The functions of the different categories of staff within the Dietary-Nutrition Unit, the general scope of their work and current trends remain the same as those reported last year. Dietary-Nutrition Unit staff worked with field staff for a combined total of 41 working weeks. A one-week workshop in Cairns launched a 12-month campaign to significantly improve the dietary skills of staff in the Cairns area (18 health workers and seven nursing sisters) in response to an escalating demand from the community for guidance about diabetes and diabetic foods.

In addition to providing training and answering other requests from within the Aboriginal Health Programme, the D.N.U. spent time responding to requests from private organizations such as Lifeline, Diabetes Association, and Aboriginal and Islander Medical Services and also provided services to schools and tertiary training institutions. Two students doing the Graduate Diploma of Nutrition and Dietetics course at the Queensland Institute of Technology and one doing the Bachelor of Applied Science (Home Economics) at Kelvin Grove undertook their major project with supervision from D.N.U. Ten of the dietetics students and one home economics student did field placement with D.N.U.

The number of field teams remained at the same level as the previous year. Details of staff employed at 30th June, 1984 are provided in the staff table.

SUMMARY OF STAFF AS AT 30th JUNE, 1984

	No. Commenced Duty	No. Appointments Pending
Health officer	1	
Principal nurse	1	
Regional medical officer	2	2
Regional nursing supervisor	1	
Audiologist	1	
Dietitians	2	
Microbiologists	2	
Secretary, Aboriginal and Islander Health Advisory Council	1	
Brisbane office clerical/ administrative assistants/ stenographic supervisor	14	
Health assistant instructor	1	
Audiometrists	3	
Public health nurses	35	2
Sisters (Aboriginal Health)	3	
Field officers	31	3
Health assistants	62	7
Health workers	27	3
Itinerant hygiene officers	2	
Division of Health Promotion—Aboriginal Health Education	4	
	193	17

While the conventional activities of screening children for disease were continued in all areas, increasing emphasis is being placed on the education of both children and adults to adopt a healthier life-style and prevent the onset of disease, particularly those related to the circulatory system which appear to be a major cause of mortality in middle age. It has become too difficult to validate vital statistics information with reference to Aboriginal community populations. A major factor is the difficulty in distinguishing between events occurring amongst permanent residents and visitors in the 14 communities. For the time being, tabulations of vital events will therefore be discontinued. Available data, however, would seem to indicate the infant mortality rate on the 14 communities is unchanged from that for the 1980–82 triennium. The perinatal mortality and stillbirth rates do not appear to have declined to the same extent as the infant mortality rate. During 1983–84 financial year, no major epidemics were reported.

From the on-going health screening programme, it is encouraging to note the virtual absence of severe protein-calorie malnutrition in the most recent examinations of Aboriginal children. Milder forms of malnutrition at only slightly reduced rates continue to be detected however, which indicates the need for continuing education. It is an unfortunate spin-off of progress that improved communication increases the availability and variety of both nutritious and "junk" foods. The latter are often preferred by children of all ages.

The results of examinations of faecal specimens for enteric parasites for children up to the age of 15 years are summarized in the table below. Results of some examinations by hospital laboratories outside Brisbane have been included. Some children had more than one specimen examined during the year, and in those cases only the result of the first specimen examined is included in the summary.

Four cases of hookworm were found; at Camooweal and Dajarra in the North-West region and at Bamaga in the Far North. This small number of cases suggests that the control of hookworm gained since 1980 is being maintained. This is a major advance since the early seventies.

Ascaris lumbricoides was found in a few faecal specimens from scattered localities. It only remained prevalent at one community (not represented in the table) and increased efforts to control it there seem to have been successful.

Programmes for the control, and hopefully eventual eradication, of *Trichuris trichiura* were begun at Woorabinda and Palm Island communities. Follow-up studies at Palm Island suggest that the programme there has enjoyed considerable success with the frequency and intensity of infections greatly reduced.

Other pathogenic parasites are looked for and treatment is given on diagnosis. Unfortunately no satisfactory method is available for a quick reduction of their prevalence. *Giardia lamblia* is one of particular importance in this category. Educative measures provide the main hope for its control and eventual eradication.

RESULTS OF EXAMINATIONS FOR ENTERIC PARASITES BY REGIONS—1983
PER CENT POSITIVE

	Moreton	Wide Bay Burnett	Fitzroy	Northern	Far North	Central West	North West	All Regions Total
Number of faecal examinations	241	124	275	92	1 184	44	394	2 354
Entamoeba histolytica cysts	6	10	5	4	6	7	3	6
Entamoeba coli cysts	29	20	14	20	31	27	25	27
Giardia lamblia cysts	14	29	11	12	17	36	24	18
Ascaris ova	1	. .	<1	2	<1	. .	. .	<1
Hookworm ova	. .	. .	. .	. .	<1	. .	1	<1
Strongyloides larvae	. .	. .	. .	1	2	. .	2	1
Trichuris ova	10	28	27	37	57	9	14	38
Hymenolepis nana ova	7	16	9	8	8	16	14	9
No. parasites found %	47	40	50	48	28	34	39	36

NOTES ON TABLE

1. The examinations made were of formal-saline preserved specimens which are unsuitable for the detection of the trophozoite stages of the enteric protozoa. Occasional findings of trophozoites have not been included in the results.
2. A variety of other protozoa are found. Most of them are not clinically significant and they have not been included in the results.

Aboriginal and Islander Health Advisory Council

Chairwoman: Mrs L. WENITONG

Secretary: Mr N. W. FINLAY, B.A.

Councillors: Mrs R. RICHARDS
Mrs I. HALL
Mr W. BOWIE (Snr.)
Mr N. FATNOWNA
Mr K. WAIA

Resignation: Sister E. BERLIN (Effective from 3rd June, 1984)

The Aboriginal and Islander Health Advisory Council was established during 1982 for the purpose of advising the Minister for Health on matters relating to Aboriginal and Islander health. The membership of the Council consists of seven Ministerially appointed Councillors plus a full-time Secretary, all of whom are of either Aboriginal or Islander descent. Further, Councillors were selected with consideration being given to the locality of Aboriginal and Islander populations within the State, and also, whether the persons selected for appointment as Councillors, were acceptable to the various Aboriginal and Islander Communities and capable of articulating their views regarding health.

During the year 1983–84, the Aboriginal and Islander Health Advisory Council met on five occasions. These meetings were held in Brisbane on 6th July, 1983, 26th September, 1983, 14th December, 1983, 21st March, 1984, and 20th June, 1984. In the course of the year the Council received a considerable number of proposals from various community organizations and groups within the State with the main areas of interest focusing on alcoholism, concern for the aged, concern for the infirm living in remote situations, problems resulting from overcrowded housing, problems arising from inadequate water supply, insufficient psychiatric services in isolated areas, poor nutrition, and insufficient Aboriginal and Islander representation on Hospital Boards and other organizations relating to curative services being offered within the State. In addition to receiving proposals on the matters just mentioned, the Council also received several complaints regarding curative services.

The initiatives which may have ensued as a result of the Council's advice to the Minister for Health have clearly contributed to several areas of endeavour. These concern the extension of psychiatric services to the north-west of the State, and the inclusion of an Islander representative from Bamaga on the Thursday Island Hospitals Board. In addition, an amicable resolution of complaints received by the Council concerning curative services resulted folllowing the Council's communications with the Director-General of Health.

The Council's participation in the resolution of some issues of concern, for example, with respect to housing, has necessitated liaison with other government departments and independent agencies and this has occurred through the Secretary of the Council as the need arose. In addition, Mr Finlay has also served on inter-departmental committees with the Education Department and the Department of Community Services.

In conclusion, the Aboriginal and Islander Health Advisory Council expanded its activities in comparison with those of the previous year. It also appeared from the approaches made to the Council by various community organizations, that the Aboriginal and Islander Health Advisory Council has achieved a considerable degree of acceptance within a significant number of Aboriginal and Islander Community Groups throughout the State.

Division of Child Health

Director: Dr J. F. McFARLANE, M.B., B.S., F.R.C.P., M.F.C.M., F.R.A.C.M.A

Assistant Director: Dr V. M. O'HARA, M.B., B.S.(Syd.), B.Sc.

Deputy Director: Dr L. BURLESS, M.B., B.S.

Medical Officers: Dr R. FITZHARDINGE, M.B., B.S.(Syd.)
Dr E. NICHOLSON, M.B., B.S., F.R.A.C.P.
Dr M. COX, M.B., B.S.
Dr J. MELLICK, M.B., B.S.
Dr J. WAGNER, M.B., B.S.(Syd.)
Dr K. MURPHY, M.B., B.S.(W.A.)
Dr J. HUDSON, M.B., B.S.(Q'ld)
Dr J. HOOPER, M.B., B.S.(Q'ld)—South West Region
Dr L. O'BRIEN, M.B., B.S.(Syd.), D.T.M.&H. (Liverpool)—Central Region
Dr D. SPRANGEMEYER, M.B., B.S.(Lond.), M.R.C.S.(Eng.) L.R.C.P(Lond.)—Northern Region
Dr J. NEWLAND, M.B., B.S.(Adel.)—Part-Time, Far Northern Region

Principal School Health Nurse (Acting): Miss M. HARRIS, S.R.N., Dip.C.A.N., F.C.N.A.

Nursing Superintendent: Miss J. HENRY, S.R.N., Dip.N.Admin., F.C.N.A., Grad.Dip.E.C.S.

Deputy Nursing Superintendent: Mrs A. M. S. LIVINGSTONE, S.R.N., Dip.N.Admin., F.C.N.A.

Supervisors: M. GLEN, S.R.N.
L. FIORI, S.R.N.
N. JONES, S.R.N. (Acting)

This is the first annual report from the Division of Child Health, which is made up of the Division of School Health Services and the Division of Maternal and Child Health.

Dr Jean McFarlane, formerly Director of Maternal and Child Health, was appointed Director in December 1983. A project management team, under the chairmanship of Dr Gordon Urquhart, Director of Psychiatric Services, Miss Sue Zsembay (and then Miss Hazel Batchelor), Deputy Chief Nursing Officer and Ms Sue Enkelmann, Management Services, formulated a strategic activities plan for the establishment of the Division: this has been approved of by the Steering Committee (Dr A. Musgrave—Chairman, Dr Jean McFarlane, Dr W. Smith, Dr J. Collie, Miss E. A. Abel, Miss H. Batchelor, Mr A. Neilsen, Mr J. Wendt) and is to be implemented by the Interim Management Team within the Division (Dr Jean McFarlane—Chairman, Dr V. M. O'Hara, Dr R. Fitzhardinge, Dr E. Nicholson, Mrs A. Livingstone, Miss M. Abbot, Miss J. Henry, Mr K. Wegner, Mr K. Nelms).

Approval for the formation of six multi-disciplinary development assessment teams (medical officer, nurse, physiotherapist, occupational therapist, social worker, and clerical assistant) to work throughout the State assisting the existing staff in assessing child growth and development has been obtained. Links between the community-based services and the hospitals should also be strengthened.

The year 1983 again saw a fall in the infant mortality rate and an increase in the number of births in the State. The increase in births was accompanied by an increase in clinic attendances. The rising birth rate over the last two years emphasized the need for further expansion of the service offered to school age children in the near future.

A new concept in the presentation of the parentcraft lecture programme has been introduced and is being well received by students, teachers and parents. The programme was developed in co-operation between the Health Department, the Education Department and Division of Health Promotion.

SERVICE PROVIDED

Baby Clinics:
    Metropolitan Centres 16
    Metropolitan Sub-Centres 72
    Country Centres 34
    Country Sub-Centres 189
Special Centres:
    Mobile Vans—Brisbane 49 stops
    Mobile Van—Cairns 56 stops
    Mobile Van—Gold Coast 56 stops
    Mobile Van—Mackay 56 stops
    Mobile Van—Townsville 56 stops
From the Three Royal Flying Doctor Service Bases 67 stops
Toddlers Clinic 53 clinics
Ante-Natal Clinic 3 clinics

Medical Baby Clinics 8 clinics
School Health Services:
    Metropolitan—
        Pre 150
        Primary 201
        High 50
        Special 28
        Catholic 77
    Country—
        Pre 301
        Primary 864
        High 118
        Special 29
        Catholic 153

MATERNAL AND CHILD HEALTH SERVICES

During 1983 more babies were born in Queensland than ever before for a single year—41 999. Over the last four years there has been a dramatic rise from 34 972 to 38 834 and to 40 540 and now 41 999. This has resulted in a considerable increase in the workload of the baby clinic sister as there has been no staff increase for some years.

During the year a new clinic building was opened at Middlemount. Ferny Hills, which had previously been a sub-centre of Fortitude Valley, became a parent centre on 1-6-84.

Two senior staff members retired during the year—Miss S. Ryan as Matron of the St. Paul's Terrace Home and Miss B. Flint as Sister in Charge, Southport Centre.

ANALYSIS OF CENTRE WORK

Client contact

During the year paralleling the increase in births there was an increase in clinic attendances from 627 539 in 1982–83 to 643 167 in 1983–84. Increased use continues to be made of the telephone for consultation—37 430 calls were received in 1984 as compared with 34 200 in 1983. At the clinic 11 617 feedings were supervised and 7 067 demonstrations in food preparation were given to mothers.

The infant mortality rate reached a record low of 9.9 deaths per 1 000 live births in 1983 as compared with 10.7 in 1982.

Year	Births
1976	35 243
1977	34 935
1978	34 465
1979	35 195
1980	34 972
1981	38 834
1982	40 540
1983	41 999

Publications

The following newsletters were distributed during the year to metropolitan and country newspapers: Change and Caring for Babies.

Special Lectures

During the year staff from the Division gave lectures on requests to a number of groups including: dental therapy students; kindergartens; church groups; clubs; associations; community health orientation; Aboriginal Health program; pre-school advisory teachers; pre-school regional officers; remedial teachers; trainee guidance officers; student teachers; schools and juvenile aid bureau trainees.

SPECIAL BABY CLINICS

Mobile Vans

The mobile vans continue to provide a baby clinic service for mothers in isolation whether it be in a city suburb or a country town: 6 are located in Brisbane and one in each of the following towns: Gold Coast, Townsville, Mackay and Cairns. In all 64 480 visits were made compared to 54 175 the previous year.

Royal Flying Doctor Service

Maternal and Child Health sisters continue to work with the Royal Flying Doctor Service from their bases at Charleville, Mount Isa and Cairns. Many isolated families are provided with professional help that otherwise would be too far away. During the year 5 698 children attended the clinic as compared with 5 422 the previous year. The sisters co-operated well with the Royal Flying Doctor Service acting as a part of their retrieval team, particularly in the Cairns area.

Home Visiting

In Brisbane, the two home visiting sisters made 3 839 visits to mothers and babies. This service is of immense value to mothers with frail babies. In country areas the local clinic sisters made a total of 789 home visits to babies not seen at the time of hospital visiting or who had defaulted with an expected clinic attendance.

Doctor's Consulting Clinics

Clinics where medical advice regarding feeding management problems is available are conducted at Fortitude Valley, Woodridge, Chermside, Inala, Wynnum, Ferny Hills, Sandgate and Coorparoo. A total of 1 286 visits were made to these clinics. The Fortitude Valley Clinic continues to be the main centre from which telephone advice is sought and over 3 000 phone consultations were made during the year.

STATISTICS

The following statistics are available as a result of the work undertaken in the Division and collaborating agencies.

WEIGHTS

GIRLS			BOYS	
Number	Mean	Age	Number	Mean
1 829	3.3	Birth	1 872	3.4
1 524	5.7	3 Months	1 583	6.2
1 294	7.5	6 Months	1 326	8.0
908	8.6	9 Months	925	9.2
668	9.6	12 Months	662	10.3
491	10.5	16 Months	529	11.5
375	11.7	20 Months	439	12.3
381	12.4	2 Years	455	13.1
268	13.2	2–4/12 Years	307	13.6
229	13.9	2–8/12 Years	262	14.4
238	14.6	3 Years	229	15.2
150	15.1	3–4/12 Years	147	15.8
107	15.6	3–8/12 Years	118	16.5
91	16.5	4 Years	105	17.1
42	16.9	4–4/12 Years	52	18.1
30	18.7	4–8/12 Years	27	17.7
14	19.1	5 Years	10	19.4

Survey conducted on current charts.
No birth days beyond 1979.
Compiled MAY, 1984.

LENGTHS

GIRLS			BOYS	
Number	Mean	Age	Number	Mean
1 508	60.1	3 Months	1 572	62.1
1 285	67.3	6 Months	1 325	68.8
899	71.9	9 Months	918	73.5
661	75.8	1 Year	644	77.4
376	86.0	2 Years	442	87.1
231	94.6	3 Years	227	95.9
91	101.6	4 Years	102	102.6
14	109.6	5 Years	12	109.6

HEAD MEASUREMENT

GIRLS			BOYS	
Number	Mean	Age	Number	Mean
1 508	40.0	3 Months	1 579	41.1
1 296	43.0	6 Months	1 327	44.2
897	44.9	9 Months	920	46.1
659	46.1	1 Year	654	47.6
375	48.6	2 Years	446	49.8
229	49.9	3 Years	222	51.1
91	50.6	4 Years	103	51.8
14	50.9	5 Years	12	52.9

CHEST MEASUREMENT

GIRLS			BOYS	
Number	Mean	Age	Number	Mean
1 503	40.0	3 Months	1 543	41.1
1 290	43.4	6 Months	1 300	44.1
892	45.6	9 Months	899	46.6
639	47.0	1 Year	644	48.3
367	49.5	2 Years	444	50.4
228	51.3	3 Years	222	52.8
91	52.6	4 Years	104	54.1
14	54.0	5 Years	12	55.8

Neonatal Screening

During the year 39 948 tests were carried out by the Laboratory of Microbiology and Pathology. In all 99.13 per cent of the new-born population were tested.

Condition	Cases Detected in 1983–84	Total (now identified)
Phenylketonuria	3	44
Hypothroidism	10	37
Cystic Fibrosis	18	29
Galatosemia	..	2

There were 2 663 repeat tests requested (17 for PKU, 346 for hypothyroidism, 626 for cystic fibrosis and 13 for galactosemia). Tests have also been carried out on a further 1 300 babies resident in the Northern Territory and Papua New Guinea, Indonesia, and Bangladesh.

Eight hundred and seventeen ante-natal mothers were tested for PKU: No raised level was detected.

Babies Suffering from Colic

A survey begun in 1982 on infant's suffering from colic was continued and 154 babies (89 males and 65 females) of a total of 1 286 babies referred to a doctor's clinic were found to require treatment. The following tables analyse the data and a comparison is made with 501 babies investigated during the last two years.

AGE OF PRESENTATION

	1981–82		1982–83		1983–84	
Age	Males	Females	Males	Females	Males	Females
Less than 4 weeks	53	47	18	23	12	12
4–8 weeks	68	55	62	43	44	39
8–12 weeks	22	24	22	11	21	11
12–16 weeks	6	5	8	8	9	1
16–20 weeks	5	2	5	3	3	1
20–25 weeks	1	1	1	1	..	..
25–30 weeks	2	1	..	..	..	..
30–35 weeks	1	1	..	..	..	..
Unknown	1	1	..	..	..	..
Total	159	137	116	89	89	65

AGE OF MOTHER

Age of Mother	Number 1981	Percentage 1981	Number 1982	Percentage 1982	Number 1983	Percentage 1983
20 years	27	9	12	6	4	3
20–24 years	94	31	58	28	34	22
25–29 years	111	38	94	46	63	41
30–34 years	51	17	30	14	39	25
35 years	12	4	11	6	14	9
Not known	1	. .	. .	. .	. .	. .
Total	296		205		154	

PLACE IN FAMILY

Place of Baby in Family	Number 1981	Percentage 1981	Number 1982	Percentage 1982	Number 1983	Percentage 1983
1	168	57	118	58	91	59
2	85	29	59	29	33	21
3	26	9	17	8	21	14
4	10	3	8	4	7	5
5+	7	2	3	1	2	1
Total	296		205		154	

COMPLICATIONS AT DELIVERY

Complications at Delivery	Number 1981	Number 1982	Number 1983
Normal	162	120	105
Forceps	56	37	24
LUSCS	53	32	22
Breech	7	5	1
Face presentation	4	2	2
Persistent occipito-posterior	4	. .	. .
Vacuum extraction	. .	6	. .
Impacted Shoulders	. .	1	. .
Unknown	10	2	. .
Total	296	205	154

Maternal Mortality Committee

Members

Dr P. G. LIVINGSTONE (Chairman), Dr M. D. MAHONEY, Dr J. CAMPBELL, Dr A. DAVISON, Dr R. DRAKE, Dr E. Popper, Dr E. J. ESLER, Professor E. V. MACKAY, Mr O. M. MAY, Dr J. McFARLANE (Secretary), Dr P. D. LIVINGSTONE, Dr. L. BRUNELLO, Dr DES DANN.

During 1982, three mothers died in Queensland as a result of complications occurring during delivery of a baby. The rate of death in Queensland—0.074 deaths per 1 000 live births (the lowest of the Australian States)—was lower than the Australian average of 0.104 deaths per 1 000 live birhs (25 deaths). During 1983–84, one meeting of the Maternal Mortality Committee was held to discuss maternal deaths and deaths associated with pregnancy.

MATERNAL MORTALITY RATES FOR EACH STATE AND TERRITORY OF AUSTRALIA FOR THE YEAR 1982

State/Territory	Maternal Deaths	Live Births	Rate (per 1 000 Births)
Australia	25	239 903	0.104
New South Wales	11	83 489	0.132
Victoria	8	59 983	0.133
Queensland	3	40 540	0.074
South Australia	. .	19 294	. .
Western Australia	2	22 236	0.090
Tasmania	. .	7 002	. .
Northern Territory	1	2 880	0.347
Australian Capital Territory	. .	4 479	. .

A COMPARISON OF MATERNAL MORTALITY QUEENSLAND AND AUSTRALIA

Year	Maternal Deaths ICD 630–676		Maternal Mortality Rate*	
	Queensland	Australia	Queensland	Australia
1921	108	643	5.31	4.72
1931	108	650	6.06	5.48
1941	92	490	4.28	3.64
1951	35	203	1.18	1.05
1961	28	108	0.76	0.45
1962	23	83	0.64	0.33
1963	9	64	0.25	0.27
1964	10	75	0.29	0.33
1965	10	74	0.30	0.33
1966	13	66	0.40	0.29
1967	9	53	0.26	0.23
1968	11	69	0.31	0.28
1969	8	44	0.22	0.18
1970	8	66	0.21	0.26
1971	10	51	0.25	0.18
1972	6	33	0.15	0.12
1973	11	28	0.29	0.11
1974	7	28	0.18	0.11
1975	. .	13	. .	0.06
1976	5	30	0.14	0.13
1977	3	18	0.09	0.08
1978	4	15	0.12	0.07
1979	3	18	0.09	0.08
1980	4	22	0.11	0.10
1981	3	25	0.08	0.11
1982	3*	25*	0.07*	0.10*

* Per 1 000 live births

Perinatal Mortality Committee

Members

Dr P. G. LIVINGSTONE (Chairman), Dr W. J. CARTER, Dr. A. J. ANSFORD, Dr E. J. ESLER, Dr. I. ROBERTSON, Dr G. BOURKE, Dr D. TUDEHOPE, Dr J. CAMPBELL, Dr E. B. BEVAN, Dr P. GRANT, Dr J. MORRISON, Dr R. HEMSLEY, Dr D. BUNTINE, Dr W. D. D. COOKE, Dr J. THEARLE, Dr J. R. TIERNAN, Dr J. McFARLANE (Secretary), Dr P. HARVEY.

The perinatal mortality rate for 1982 was the lowest ever recorded in Queensland (12.73 deaths per 1 000 live births). Since 1974 there has been a gradual fall in the rate and this has probably reflected the development of neo-natal intensive care services in Brisbane. Two meetings of the Perinatal Mortality Committee were held during 1983–84 to discuss reports from peripheral hospital based committees, to seek ways of improving neo-natal transport services and neo-natal care.

PERINATAL DEATHS—TIME OF CESSATION OF HEARTBEAT AND SEX—QUEENSLAND, 1981 AND 1982

Time of Cessation Heartbeat	Sex	1981		1982	
		Total	Rate*	Total	Rate*
Before Delivery—Before Labour commenced ..	M	112	5.57	89	4.25
	F	63	3.37	73	3.72
During labour ..	M	29	1.44	29	1.39
	F	33	1.76	21	1.07
Time not known	M	10	0.50	6	0.29
	F	6	0.32	7	0.36
Total	M	151	7.51	124	5.93
	F	102	5.45	101	5.15
After delivery	M	160	7.95	156	7.45
	F	115	6.14	135	6.88
Total	M	311	15.46	280	13.38
	F	217	11.59	236	12.03
	P	528	13.60	516	12.73

* Per 1 000 live births

PERINATAL DEATHS COMPARATIVE TOTALS AND RATES FOR 1973–1982

Year	Number			Rate		
	Males	Females	Persons	Males	Females	Persons
1973	473	405	878	24.40	21.68	23.06
1974	465	381	846	23.72	20.88	22.35
1975	388	314	702	20.79	17.70	19.28
1976	371	339	710	20.61	19.67	20.15
1977	341	273	614	18.93	16.13	17.58
1978	308	269	577	17.33	16.11	16.74
1979	261	261	522	14.38	15.31	14.83
1980	283	236	519	15.67	13.95	14.84
1981	311	217	528	15.46	11.59	13.60
1982	280	236	516	11.28	12.03	12.73

* Per 1 000 live births

Marriages

Registration of marriages in 1983 numbered 18 645, compared with 18 928 in 1982. The rate per 1 000 mean resident population was 7.8 in 1982 and 7.5 in 1983. A total of 415 persons aged under 18 (13 males and 402 females) and 5 898 aged 18 to 20 (1 480 males and 4 418 females) were married during 1983. The divorce rate for 1983 was 30.3 per 10 000 mean resident population, compared with the rate of 28.0 for 1982.

Birth-rate

Births registered in Queensland during 1983 numbered 41 999 compared with 40 540 in 1982. The rate per 1 000 mean resident population was 20.3 in 1972, 16.8 in 1982 and 17.0 in 1983. Of births registered during 1983 21 685 were males and 20 314 were females, equivalent to 106.7 males for every 100 females.

Infantile Mortality

Deaths of infants aged under one year numbered 417, comprising 253 males and 164 females, compared with 432 in 1982. The infant mortality rate was 9.9 deaths per 1 000 live births in 1983 compared with 10.7 in 1982.

DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL ANOMALIES, 1981 AND 1982

Congenital Anomaly of—	I.C.D.* Code	1981		1982	
		M	F	M	F
Nervous system	740–742	14	13	12	23
Anencephalus and similar anomalies	740	6	7	5	10
Spina Bifida	741	3	1	1	6
with hydrocephalus	7410	2	1	..	4
without mention of hydrocephalus	7419	3	..	1	2
Congenital hydrocephalus ..	7423	3	1	3	4
Other anomalies	Rest of 740–742	2	4	3	3
Eye	743	..	..	..	..
Ear, face and neck	744	..	..	..	..
Heart	745–746	14	11	13	13
Common truncus	7450	..	1	1	..
Transposition of great vessels	7451	..	3	2	2
Tetralogy of fallot	7452	..	..	1	1
Common ventricle	7453	1	..	..	..
Ventricular septal defect	7454	..	..	1	3
Ostium secundum type atrial septal defect	7455	..	..	1	..
Anomalies of heart valves ..	7460—7466	..	..	3	1
Other specified anomalies ..	7456—7459 7467—7468	5	4	3	2
Unspecied anomalies	7469	8	3	1	4
Circulatory system	747	7	4	4	5
Patient ductus arteriosus	7470	1	1	1	..
Coarctation of aorta	7471	2	1	..	1
Other anomalies of aorta ..	7472	..	..	1	..
Anomalies of pulmonary artery	7473	1	2	1	1
Anomalies of great veins	7474	..	..	..	..
Absence of hypoplasia of umbilical artery	7475	..	..	..	..
Other anomalies of peripheral vascular system	7476	..	..	..	..
Other specified anomalies of circulatory system	7478	1	..	..	1*
Unspecified anomalies	7479	2	1	1	2
Respiratory system	748	6	3	4	6
Upper alimentary tract and digestive system	749–751	5	4	2	..
Cleft palate and cleft lip	749	..	2	..	..
Pyloric stenosis	7505	..	..	..	..
Tracheo-oesophageal fitsula, oesophageal atresia and stenosis	7503	1	..	..	..
Other anomalies of upper alimentary tract	750 rem.	..	..	..	..
Gall-bladder, bile ducts and liver	7516	2	1	..	..
Other anomalies of digestive system	751 rem.	2	1	2	..
Genital organs	752	..	..	..	..
Urinary system	753	3	..	4	..
Renal agenesis and dysgenesis	7530	5	..	3	..
Cystic kidney disease	7531	..	..	..	..
Obstructive defects of renal pelvis and ureter	7532	..	..	1	..
Exstrophy of urinary bladder	7535	..	..	..	..
Other anomalies	753 rem.	..	..	..	..
Musculoskeletal system	754–756	4	8	11	5
Integument	757	..	..	..	..
Chromosome	758	4	6	8	11
Down's syndrome	7580	..	3	4	3
Other chromosomal abnormalities	758 rem.	4	3	4	8
Other and unspecified anomalies	759	8	3	10	6
Total	..	65	52	68	69

* Excluding muscoviscidosis.

PERINATAL DEATHS—MAIN DISEASE OR CONDITION IN CHILD BY PERIOD OF GESTATION—QUEENSLAND

Main Disease Condition in Child	Fetal Deaths									Neonatal Deaths									All Perinatal Deaths								
	Period of Gestation									Period of Gestation									Period of Gestation								
	Under 28 Weeks			28 Weeks and Over*			All Gestations			Under 28 Weeks			28 Weeks and Over*			All Gestations			Under 28 Weeks			28 Weeks and Over*			All Gestations		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
												1981															
Slow fetal growth, fetal malnutrituion and immaturity	11	9	20	3	4	7	14	13	27	31	19	50	4	2	6	35	21	56	42	28	70	7	6	13	49	34	83
Birth trauma	..	..	..	..	..	..	..	..	..	1	4	5	3	2	5	4	6	10	1	4	5	3	2	5	4	6	10
Hypoxia, birth asphyxia and other respiratory conditions	9	4	13	47	23	70	56	27	83	16	7	23	28	22	50	44	29	73	25	11	36	75	45	120	100	56	156
Fetal and neonatal haemorrhage	1	..	1	2	..	2	3	..	3	5	3	8	6	2	8	11	5	16	6	3	9	8	2	10	14	5	19
Haemolytic disease of fetus or newborn	1	..	1	2	..	2	3	..	3	1	..	1	1	..	1	2	..	2	2	..	2	3	..	3	5	..	5
Other conditions originating in the perinatal period	6	8	14	56	40	96	62	48	110	1	2	3	4	10	14	5	12	17	7	10	17	60	50	110	67	60	127
Congenital anomalies	2	1	3	11	13	24	13	14	27	1	..	1	49	36	85	50	36	86	3	1	4	60	49	109	63	50	113
Infectious and parasitic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	1	1	..	1	1
All other diseases or conditions	..	..	..	..	..	..	..	..	..	..	..	..	9	5	14	9	5	14	..	..	..	9	5	14	9	5	14
Totals	30	22	52	121	80	201	151	102	253	56	35	91	104	80	184	160	115	275	86	57	143	225	160	385	311	217	528
												1982															
Slow fetal growth, fetal malnutrituion and immaturity	7	6	13	5	4	9	12	10	22	21	20	41	2	1	3	23	21	44	28	26	54	7	5	12	35	31	66
Birth trauma	..	..	..	..	..	..	..	..	..	..	1	1	6	5	11	6	6	12	..	1	1	6	5	11	6	6	12
Hypoxia, hirth asphyxia and other respiratory conditions	5	4	9	37	29	66	42	33	75	13	12	25	21	13	34	34	25	59	18	16	34	58	42	100	76	58	134
Fetal and neonatal haemorhage	..	..	..	2	3	5	2	3	5	7	4	11	14	5	19	21	9	30	7	4	11	16	8	24	23	12	35
Haemolytic disease of fetus or newhorn	..	..	..	..	1	1	..	1	1	..	..	..	3	..	3	3	..	3	..	..	..	3	1	4	3	1	4
Other conditions originating in the perinatal period	11	3	14	46	30	76	57	33	90	3	5	8	8	9	17	11	14	25	14	8	22	54	39	93	68	47	115
Congenital anomalies	2	2	4	9	19	28	11	21	32	1	..	1	48	50	98	49	50	99	3	2	5	57	69	126	60	71	131
Infectious and parasitic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	2	2	..	..	..	..	2	2	..	2	2
All other diseases or conditions	..	..	..	..	..	..	..	..	..	..	..	..	9	8	17	9	8	17	..	..	..	9	8	17	9	8	17
Totals	25	15	40	99	86	185	124	101	225	45	42	87	111	93	204	156	135	291	70	57	127	210	179	389	280	236	516

* Including deaths for which period of gestation was not stated 11 male and 1 female perinatal deaths in 1981 and 10 male and 7 female perinatal deaths in 1982.

PERINATAL DEATHS*—MAIN DISEASE OR CONDITION IN CHILD BY STATISTICAL DIVISION OF USUAL RESIDENCE OF MOTHER

Main Disease or Condition in Child	Brisbane		Moreton		Wide Bay		Darling Downs		South-Western		Fitzroy		Central Western		Mackay		Northern		Far-North		North-Western		Queensland	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
											1981													
Slow fetal growth, fetal malnutrituion and immaturity	21	16	4	2	8	5	1	2	..	..	3	1	..	..	2	4	6	..	3	3	1	1	49	34
Birth trauma	2	6	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	4	6
Hypoxia, hirth asphyxia and other respiratory conditions	42	22	14	10	3	3	4	1	4	2	11	3	1	..	1	2	8	7	10	3	2	3	100	56
Fetal and neonatal haemorrhage	4	2	2	1	4	..	1	1	1	..	..	..	..	..	..	1	1	..	1	..	..	..	14	5
Haemolytic disease of fetus or newborn	2	..	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	5	..
Other conditions originating in the perinatal period	31	31	5	4	5	4	1	2	3	..	6	1	..	2	5	2	4	7	5	6	2	1	67	60
Congenital anomalies	29	29	9	2	4	5	6	3	..	..	5	2	..	..	1	6	4	1	4	2	1	..	63	50
Infections and parasitic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Other diseases and conditions	5	2	..	..	2	1	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	1	9	5
Totals	136	108	36	19	26	18	15	10	8	2	27	7	1	2	9	15	23	15	23	15	7	6	311	217
Rate per 1 000 Births (Live and Still)	14.10		12.52		17.56		8.18		17.45		12.27		11.45		13.17		13.57		13.92		14.91		13.51	
											1982													
Slow fetal growth, fetal malnutrituion and immaturity	12	14	7	..	2	1	1	..	..	1	2	4	..	1	..	4	3	1	7	3	1	2	35	31
Birth trauma	2	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1	1	2	2	..	6	6
Hypoxia, hirth asphyxia and other respiratory conditions	37	31	10	4	2	5	4	2	..	..	4	4	..	1	3	2	12	5	2	3	2	1	76	58
Fetal and neonatal haemorrhage	7	9	1	..	3	..	1	..	..	1	4	1	..	..	1	1	1	..	2	..	3	..	23	12
Haemolytic disease of fetus or newborn	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	3	1
Other conditions originating in the perinatal period	22	18	4	5	7	5	2	1	1	1	7	4	1	1	5	..	9	4	7	6	3	2	68	47
Congenital anomalies	23	35	5	9	5	3	5	7	1	2	1	4	..	1	5	2	4	6	8	2	3	..	60	71
Infections and parasitic diseases	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2
Other diseases and conditions	1	3	1	..	2	..	2	..	1	1	1	1	..	..	..	..	1	2	..	1	..	..	9	8
Totals	105	112	29	18	21	14	15	12	3	6	19	18	1	4	14	9	31	19	28	19	14	5	280	236
Rate per 1 000 Births (Live and Still)	11.85		9.64		13.75		9.05		15.36		13.29		19.16		11.72		17.37		17.30		21.97		12.66	

PERINATAL DEATHS—MAIN DISEASE OR CONDITION IN CHILD BY MAIN MATERNAL CONDITION AFFECTING CHILD—QUEENSLAND

Main Disease or Condition in Child	Main Maternal Condition Affecting Child																							
	Possibly unrelated to present pregnancy				Complications of pregnancy				Complications of placenta, cord and membranes				Other complications of labour and delivery				No condition reported				Total			
	Fetal		Neonatal		Fetal		Neonatal		Fetal		Neonatal		Fetal		Neonatal		Fetal		Neonatal		Fetal		Neonatal	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	1981																							
Slow fetal growth, fetal malnutrituion and immaturity	1	..	2	1	5	4	19	12	6	7	12	7	1	2	..	..	1	..	2	1	14	13	35	21
Birth trauma	..	..	..	..	..	..	1	3	..	..	1	1	..	..	..	..	..	..	2	2	..	..	4	6
Hypoxia, hirth asphyxia and other respiratory conditions	3	3	3	3	2	..	11	6	39	19	8	6	..	1	..	..	12	4	22	14	56	27	44	29
Fetal and neonatal haemorrhage	..	..	2	..	..	..	..	2	3	..	3	1	..	..	..	..	..	..	6	2	3	..	11	5
Haemolytic disease of fetus or newhorn	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	2	..	3	..	2	..
Other conditions originating in the perinatal period	6	5	1	1	2	2	2	1	33	24	..	..	1	..	..	..	20	17	2	10	62	48	5	12
Congenital anomalies	..	1	1	..	..	..	2	1	..	1	1	1	1	..	..	1	12	12	46	33	13	14	50	36
Infections and parasitic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Other diseases and conditions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	5	..	..	9	5
Totals	10	9	9	5	9	6	35	25	81	51	25	16	3	3	..	1	48	33	91	68	151	102	160	115
	1982																							
Slow fetal growth, fetal malnutrituion and immaturity	3	1	3	..	3	4	13	13	6	5	6	7	..	..	1	1	..	..	..	..	12	10	23	21
Birth trauma	..	..	..	2	..	..	1	1	..	..	..	..	..	..	..	..	..	..	5	3	..	..	6	6
Hypoxia, hirth asphyxia and other respiratory conditions	2	3	6	4	1	..	13	8	28	16	4	5	2	2	1	1	9	12	10	7	42	33	34	25
Fetal and neonatal haemorrhage	..	..	..	1	..	..	6	4	1	2	2	1	..	..	2	..	1	1	11	3	2	3	21	9
Haemolytic disease of fetus or newhorn	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	1	3	..
Other conditions originating in the perinatal period	6	2	1	3	4	..	4	6	29	20	..	1	..	..	..	..	18	11	6	4	57	33	11	14
Congenital anomalies	..	..	1	..	..	3	8	3	1	1	1	1	..	..	..	..	10	17	39	46	11	21	49	50
Infections and parasitic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Other diseases and conditions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	8	..	..	9	8
Totals	11	6	11	10	8	7	45	35	65	44	13	15	2	2	4	2	38	42	83	73	124	101	156	135

Notes:
1. The statistics have been compiled from perinatal death certificates designed to elicit the underlying cause of death of the child rather than to elicit the main condition in the child and mother. Because of this and the fact that certain judgements of the available information had to he made in order to compile the statistics on the new basis, the resultant statistics on disease or condition cannot be considered entirely satisfactory.
2. Cases of indeterminate sex are included with males (comprising two fetal deaths in 1981 and one fetal and two neonatal deaths in 1982).
3. Perinatal deaths include all fetuses and neonates delivered weighing at least 500 grams or, when hirth weight is unavailable, the corresponding gestation age of 22 weeks. Neonates dying at 28 days after birth or later are excluded.

Accidental Deaths

ACCIDENTAL DEATHS OF CHILDREN (AGED 1 AND UNDER 15 YEARS)

Cause	1977		1978		1979		1980		1981		1982		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Traffic accidents	38	13	22	28	26	24	23	21	29	18	38	18	298
Firearms	2	2	..	..	4	1	2	..	1	..	..	..	12
Drowning	16	9	8	9	11	11	16	10	15	6	19	6	146
Falls	3	..	1	1	1	..	2	..	2	1	1	..	12
Other accidents	15	7	21	8	16	6	14	7	27	14	25	12	172
Totals	74	31	62	46	58	42	57	38	74	39	83	36	640
Total persons	105		108		100		95		113		119		640

Accidental deaths of children in this age group numhered 119 in 1982 compared with 113 in 1981 and an average of 119 in the 10 years 1973 to 1983 inclusive. In 1982 total deaths of children in this age group from all cases were 243 of which 49.0 per cent were caused hy accident.

OTHER ACTIVITIES

Correspondence section

During the year, 241 mothers received assistance with problems relating to the care of their baby.

Correspondence	1982–83	1983–84
Number of birth notifications received	895	801
Number of circulars posted—		
(No. 1) within reach of a centre	709	596
(No. 2) not within reach of a centre	186	205
Letters to correspondence in response to circular No. 2	56	54
Letters of advice re feeding & management	293	241
Number of *Growing—Care of Mother and Child* sent on request and given	261	661
Number of pamphlets sent advising immunization	895	801
Number of birthday cards sent during the year	28	23
Number of telephone calls regarding feeding and management	3 354	3 808

Ante-natal Section

Most patients attending ante-natal clinics provided for mothers at the baby clinics (Woodridge, Inala, and Chermside) attend for their first visit the ante-natal clinics at the Royal Women's Hospital and the Mater Mother's Hospital; they then attend these clinics again for the final month before delivery. During the year attendances at special film showings numbered 654 while 1 191 mothers attended physiotherapy classes for the expectant mother. A correspondence service continues to be of assistance to isolated mothers (see Tables).

SPECIAL ACTIVITIES RELATED TO ANTE-NATAL CLINICS

Activity	1982–83	1983–84
Home visits	2	124
Transfers of patients to maternal and child health clinics	1 036	1 104
Talks to ante-natal mothers (Woodridge and Inala)	43	. .
Attendances at film (Inala and Woodridge)	721	654
Circular letters forwarded to expectant mothers (No. 1)	8 961	9 229
Circular letters forwarded to expectant mothers (No. 3)	2 544	2 632
Response to circular letters	2 986	3 341
Serial letters sent to expectant mothers . .	23 327	24 491
Letters received from expectant mothers . .	243	190
Special letters of advice sent on request . .	120	90
Copies of *The Expectant Mother* sent on request	2	3 334
Requests from country centres and hospitals for *The Expectant Mother*	. .	19 522
Copies of *Before and After—The Facts and Functions of Childbirth* sent on request	3 022	4 106
Requests from country centres and hospitals for copies of *Before and After—The Facts and Functions of Childbirth*	1 164	3 219
Copies of maternity belt patterns sent . .	1	. .
Baby patterns sent and given to expectant mothers	. .	1 383
Hospital visiting	. .	3 586

SUMMARY OF ANTE-NATAL PATIENTS

Clinic	New Patients		Subsequent Visits		Post Natal Examination		Transfers	
	1982	1983	1982	1983	1982	1983	1982	1983
Inala	. .	. .	2 048	1 629	172	139	430	332
Woodridge	. .	. .	2 362	3 218	167	142	606	772
Chermside	220	241	1 965	2 056	134	150	. .	. .
Totals	220	241	6 375	6 903	473	431	1 036	1 104

Mothercraft Homes

Feeding and management problems in both artificially fed and breast fed babies are the main reasons for the admission of babies to the Mothercraft Homes. Many single mothers are requiring assistance and instruction. Family social problems continue to increase in number.

The St Paul's Terrace Home is the training centre for nurses studying for their Child Health Certificate (a total of 3 529 successful candidates) and the Clayfield and Ipswich Homes train teenagers for a certificate of competency as a Child Health Assistant (1 698 successful candidates).

PERSONS ADMITTED TO MOTHERCRAFT HOMES

Persons Admitted	Clayfield		St. Paul's Terrace		Ipswich	
	1982	1983	1982	1983	1982	1983
Babies and children	201	274	195	257	210	197
Mothers	88	75	98	139	114	119
Daily Average—						
Babies	10.8	11.3	9.6	10.8	3.3	4.4
Mothers	2.9	1.6	2.5	3.4	1.9	1.5
Day admissions	32	5	146	216	. .	. .

Lectures in Parentcraft

School statistics

During the year parentcraft lectures were given at 280 schools or institutions. There continues to be a demand for boys to be able to take part in the programme. At the present time the staff situation is such that only a few boy's classes can be included.

State high schools	140
State secondary department schools	57
Church schools	38
State special schools	44
State primary schools	1

The State has been divided into regions for ease of instruction. In isolated areas the local baby clinic sister gives the instruction.

NUMBER OF SCHOOLS GIVEN PARENTCRAFT LECTURES ACCORDING TO DISTRICT

Area	State High Schools	State Secondary Department Schools	Church Schools	State Special Schools	State Primary schools	Total number of schools
Metropolitan	63	3	13	25	. .	104
South East	13	7	1	5	. .	26
Darling Downs	14	13	8	3	. .	38
Central Coast	17	5	4	4	. .	30
Far North	17	5	6	5	. .	33
Serviced by clinic staff	15	24	6	2	1	48
Thursday Island Aboriginal and Islanders Advancement	1	. .	. .	. .	. .	1
Totals	140	57	38	44	1	280

Student statistics

Total Number of Schools	280
Total Attendance	23 015
Total Number of Successful Students	14 998

NUMBER OF STUDENTS GIVEN PARENT CRAFT LECTURES ACCORDING TO DISTRICT

Area	No. of Schools	Attendance	Examination Candidates	Successful Students	Project Book Only	Paper Only	Disqualified
Metropolitan	104	11 661	8 949	8 069	51	2 188	3
South East	26	2 241	1 588	1 445	6	538	3
Darling Downs	38	2 375	1 799	1 533	14	379	1
Central Coast	30	2 335	1 649	1 496	15	535	. .
Far North	33	2 243	1 586	1 447	13	555	1
Serviced by clinic staff	48	2 125	1 213	977	26	590	3
Thursday Island D.A.I.A.	1	35	31	31	. .	2	1
Totals	280	23 015	16 815	14 998	125	4 787	12

PRE-SCHOOL HEALTH SERVICES

General medical examinations of the pre-school child were carried out at 28 metropolitan centres, 14 country centres, 11 child care centres and pre-schools and kindergartens. Although interest in this examination in the community is good, staff limitations at the present time are restricting the development of this service.

ANALYSIS OF PRE-SCHOOL HEALTH CLINIC WORK

Clinic Location	New Patient	Subsequent Visits	Average per Clinic	Number of Clinics held
Metropolitan clinic	3 085	4 610	17.6	436
Country clinic	2 228	1 074	10.1	327
Totals	5 313	5 684	14.4	763

REFERRALS FROM PRE-SCHOOL

Type of Referral	Metropolitan	Country	Total
Doctor	285	183	468
Hospital	126	14	140
Dentist	29	3	32
Child guidance	20	1	21
Speech therapist	15	37	52
Spastic centre	. .	. .	. .
Physiotherapist	. .	3	3
Dietician	. .	. .	. .
Tests—			
X-rays	. .	11	11
Hearing	121	22	195
Haemoglobins and smears	33	7	40
Micro urines	67	8	75
Faeces cultures	36	13	49
Vaginal swabs	1	. .	1
Sweat chloride	. .	. .	. .
ECG	. .	11	11

SCHOOL HEALTH SERVICES

Staff

There have been a number of staff changes during the year. Dr J. Newland, Medical Officer-in-Charge, Community Health Services Centre, Cairns, now does School Health work in the far north, two days a week.

Miss P. Higgins has been promoted to the position of Assistant Principal Community Health Nurse, while Miss M. Harris has been seconded from the Division of Community Medicine to act as Principal School Health Nurse.

The most notable retirements were those of Miss M. Petersen after 27 years and Mrs E. Poulton after 26½ years' service in the Division.

Other sisters who resigned during the year were Miss F. Zerner (Longreach), Mrs J. Bell (Townsville) and Miss H. Hellyer (Caboolture).

Mr William Forbes, (senior) clerk has been appointed to another position within the Health Department.

New members of staff are as follows:—

School Health sisters: H. Tippo, J. Pinnington, J. Foss, P. Cooper, R. Sands (locum for N. Cameron);

Office staff: E. Walsh.

DEVELOPMENT OF SCHOOL HEALTH

Staff Training

The biannual seminar for all staff involved with School Health was held from the 4th–7th July, 1983. It was fortunate that 19 nurses from the Division of Community Medicine, who do School Health work part-time were able to attend the seminar. The seminar was an opportunity for further instruction in developmental paediatrics and for updating the staff in various aspects of paediatric medicine. The seminar presented an excellent opportunity to train all staff in the use of the new data collection system. As usual there was overwhelming staff acceptance of the seminar.

Training courses for new staff were held in July 1983 and April 1984. Various lectures and seminars were attended by various members of staff during the year, including computing in health facilities, role of therapists, nursing within the law, nutrition and the efficacy of early intervention programmes.

Special Lectures

The medical officers principal school heath nurse and school health sisters continue to give lectures to staff within the Health and Education Departments, parent groups and children.

Topics covered included the role of school health services, asthma, immunization, common childhood disorders, nutrition, skin cancer and alcohol abuse. Many sisters give talks to Year VII girls.

SPECIAL ACTIVITIES DURING THE YEAR

Liaison with the Education Department

The colloquia with members of the Division of Special Education and the Division of Pre-School Education continue as do various ad hoc meetings.

Dr O'Hara is the Health Department's representative on the Advisory Council for Special Education and chaired a Working Party on Troubled and Troubling Youth.

Regional and Local Co-ordinating Committees on Health, Education and Welfare

School medical officers are involved on a regular basis with these committees. Various activities have resulted from these meetings, such as seminars on child abuse for teachers and meetings of all local professionals to discuss matters of mutual concern.

Medical Students and School Health Services

Final year medical students attached to the Mater Children's Hospital continued their visits to West End Infants School and Coorparoo State School, to receive an introduction to and gain some experience in school health practice.

School Vacation Clinics

Vacation clinics were held at six schools and were well attended.

NUMBER OF CHILDREN SEEN AND NOTIFIED AT VACATION CLINICS

Centre	Number Examined	Number Notified
Birkdale State School	173	4
Slacks Creek State School	147	11
Morningside State School	132	27
Manly West State School	198	16
Woodridge State School	292	19
Chermside State School	236	37
Total	1 178	114

Some 9.7% of those who attended school health vacation clinics were found in need of further investigation by their own general practitioner.

Hospital Clinics

A medical officer and a school health nurse attend a school function clinic at the Mater Children's Hospital. The aim of the clinic is to provide a multi-disciplinary assessment of children with learning disabilities.

A medical officer attends a child health clinic at the Mater Children's Hospital. The clinic, which is also attended by social workers, provides an assessment and advisory service for families with a risk of child abuse or neglect.

Division of Child Health

Various staff members provided information to the Project Management Team and participated in a number of sessions with the aim of developing goals for the Division.

Inter-agency Communication

Medical officers attended a one day workshop, with staff members from a range of Government and Non-Government Agencies on communication between groups engaged in early intervention.

ROUTINE SCHOOL HEALTH ACTIVITIES

The information in this report is a combination of data collected from the old and new collection systems. This means that the results must be tabulated as for previous years, if a combined set of results is to be presented.

Pre-school Children

In keeping with previously stated policy, the target year for younger children is pre-school. The results for 1983 are outlined in the following table.

STATE PRE-SCHOOL EXAMINATIONS AND DEFECTS NOTIFIED
Calendar Year 1983

Particulars	Metro-politan	Country	Total
Total enrolment	N/A	N/A	28 633
Children examined	7 579	15 157	22 736
Children with defects notified	479	948	1 427
Percentage of children with defects notified	6.3%	6.2%	6.3%
Defects notified			
Defective vision	170	332	502
Squints and other eye defects	43	73	116
Hearing loss	242	457	699
Groin and scrotal conditions	1	..	1
Spinal defects	2	4	6
Orthopaedic conditions	3	13	16
Obesity	4	8	12
Colour vision	2	8	10
Speech	88	100	188
Total Defects Notified	574	1 073	1 647

Because the numbers of pre-school children have increased and because a more comprehensive assessment was done last year, only 80 per cent of the total enrolment was seen.

With respect to vision and hearing screening, the results are presented in the following table.

RESULTS OF VISION AND HEARING SCREENING OF PRE-SCHOOL CHILDREN
1-7-1983–21-12-1983

Outcome	Vision Screening	Hearing Screening
	Percentage	Percentage
Passed Screen	88.8%	92.7%
For review	7.3%	3.2%
Known condition	2.3%	1.3%
Condition notified	2.6%	3.4%
Referred to other agencies	0%	0.2%
Total Known/Notifed/Referred	4.9%	4.9%

Primary School Children

This year, children in Year I who had not been seen in pre-school were screened. Children in Years II–VI were seen at the request of teachers, guidance officers, parents and therapists. Children in Year VII were screened for scoliosis, visual acuity and colour vision defects (boys only). The results for 1983 are presented in the following table.

COVERAGE OF PRIMARY SCHOOL CHILDREN
Calendar Year 1983

Particulars	Metro-politan	Country	Total
Primary school enrolments—			
Year I	N/A	N/A	41 444
Year VII	N/A	N/A	47 480
Other (II–VI)	N/A	N/A	212 847
All schools	N/A	N/A	301 771
Children examined by school health sisters—			
Year I	6 401	11 584	17 985
Year VII	11 278	22 369	33 647
Other years—			
On request	3 171	7 774	10 945
Review	3 211	5 846	9 057
Other	225	3 078	3 303
Total children examined by school sisters	24 286	50 651	74 937
School medical officer examinations	696	451	1 147
Children examined as a percentage of children enrolled in all schools—			
Year I	N/A	N/A	43%
Year VII	N/A	N/A	71%
Other years (II–VI)	N/A	N/A	11%
All years	N/A	N/A	25%

As can be seen, 43 per cent of Year I children were seen. This is due to the fact that most children attending State pre-schools were seen last year. Slightly fewer Year VII children were seen, no doubt due to more time being spent with the younger children and to the increase in the school age population.

Details of suspected physical defects notified in primary school children are outlined below.

SUSPECTED DEFECTS NOTIFIED IN PRIMARY SCHOOL CHILDREN
Calendar Year 1983

Particulars	Metro-politan	Country	Total
Children Examined	24 286	50 651	74 937
Children with defects notified	2 762	4 182	6 944
Percentage of children with defects notified	11.4%	8.3%	9.3%
Defects notified—			
Defective vision	884	1 596	2 480
Squints and other eye defects	69	148	217
Hearing loss	410	1 050	1 460
Groin and scrotal conditions	6	7	13
Spinal defects	1 175	1 098	2 273
Orthopaedic conditions	12	41	53
Obesity	88	105	193
Colour vision	226	503	729
Speech defects	101	74	175
Total Defects Notified	3 021	4 732	7 753

Further analysis cannot be given due to the incompatibility of the two data collection systems.

It is noted that 9.3 per cent of those examined were found to have an unsuspected physical defect which was referred to the family doctor for further investigation and treatment. This compared with 7.3 per cent in 1982.

With respect to screening for scoliosis and vision defects in Year VII children, the results are as presented in the following table.

RESULTS OF VISION AND SCOLIOSIS SCREENING IN YEAR VII CHILDREN
1-7-1983–31-12-1983

Outcome	Vision Screening	Scoliosis Screening
	Percentage	Percentage
Passed screen	87.7	84.9
For review	0.4	0.8
Known Condition	5.6	1.1
Condition notified	3.5	6.7
Referred to other agencies	..	..
Total Known/Notifed/Referred	9.1	7.8

"Special Program" Schools

Three school health sisters, funded by the Schools Commission, continue to provide a service to 11 State primary and six State pre-schools in Brisbane.

Special School Children

New admissions to special schools are fully examined if there is no record of such an examination being done.

The 11 year age group is examined as other Year VII children. Other children are seen at the request of school staff, or parents.

DETAILS OF EXAMINATIONS AND DEFECTS NOTIFIED IN SPECIAL SCHOOL CHILDREN
Calendar year 1983

Particulars	Metropolitan	Country	Total
Total enrolment	N/A	N/A	5 348
Children examined	832	1 002	1 834
Children with defects notified ..	113	109	222
Percentage of children with defects notified	13.6%	10.9%	12%
Defects notified			
Defective vision	33	36	69
Squints and other eye disorders	1	2	3
Hearing loss	32	23	55
Spinal defects	41	26	67
Colour vision	4	13	17
Orthopaedic	0	4	4
Obesity	5	5	10
Other	9	14	23
Total Defects Notified	125	123	248

As noted in previous years, there is a greater proportion of unsuspected physical conditions in children attending special schools. A similar proportion (34%) of children were examined.

Other Special Education Facilities

School medical officers continue to visit special pre-schools and schools for the multiply handicapped, which continue to be set up.

State High School Students

Due to the concentration of resources on the younger and the special school children, a minority of high schools have been visited. Sisters see the students on a consultative basis only. No routine screening is carried out. The source of referral of the students to the sisters is desribed in the table below.

SOURCE OF REFERRALS OF HIGH SCHOOL STUDENTS TO SCHOOL SISTER
1-7-83–31-12-83

Referred by	Metropolitan	Country	Total
School staff	11	283	294
Special education/guidance ..	..	29	29
Parent/guardian	1	9	10
Self	9	181	190
Speech therapist	..	1	1
Other agency	..	1	1
Total	21	504	525

Once again, sisters in the country appear to be able to fit in more visits to high schools.

The reasons for referral are outlined in the following table.

REASON FOR REFERRAL OF HIGH SCHOOL STUDENTS TO SCHOOL SISTER
1-7-1983–31-12-1983

Condition	Metropolitan		Country		Total
	Boys	Girls	Boys	Girls	
Vision	2	4	112	221	339
Hearing	3	..	43	58	104
Skin	..	2	3	2	7
Abdominal pain	1	..	..	..	1
First aid	..	..	..	4	4
Height	..	..	..	1	1
Underweight	1	..	..	..	1
Development	..	..	..	1	1
Headaches	..	2	..	3	5
School problems	..	..	7	3	10
Other—					
Orthopaedic	..	1	1	5	7
Medical	2	1	10	12	25
Social problem	1	1	1	1	4
Child abuse/neglect	..	..	..	1	1
Other back	..	..	2	3	5
Behaviour problem	..	..	1	1	2
Scoliosis	..	..	1	5	6
Gynaccological	..	..	..	2	2
Total	10	11	181	323	525

Most children are referred for vision and hearing tests.

Contacts with Parents

In keeping with the policy of having as much contact as possible with the parents, school sisters have recorded an increasing number of parent interviews at school, or by telephone. Parents who are unable to be visited in the home, or contacted any other way, are often written to requesting additional information.

The details are shown in the table below.

SCHOOL SISTERS CONTACT WITH PARENTS
Calendar Year 1983

Particulars	Metropolitan	Country	Total
Home visits	132	335	467
Interviewed at school	3 859	3 939	7 798
Telephone	1 852	1 637	3 489
Letter	899	858	1 757
Total	6 742	6 769	13 511

Referrals to other agencies

The policy of School Health Services has always been to notify parents when unsuspected defects are found. It is then up to them to take the child to their own general practitioner, paediatrician or local hospital.

It sometimes happens that during discussion of a problem it becomes obvious that another agency could benefit the child—an agency that in no way usurps the role of the medical practitioner. These referrals to other agencies are often done in conjunction with the general practitioner. Details of referrals to other agencies are outlined in the following table.

REFERRALS TO OTHER AGENCIES
Calendar Year 1983

Agency	Metropolitan	Country	Total
Aboriginal Health	10	146	156
School Health consultative clinic	14	20	34
Children's Services	4	26	30
Division of Community Medicine	9	32	41
Division of Youth Welfare and Guidance	55	26	81
Guidance and Special Education	9	62	71
National Acoustic Laboratories	95	87	182
R.Q.B.C.H.S	0	31	31
Social worker	1	26	27
Speech therapist	77	130	207
Physiotherapist	0	16	16
Occupational therapist	5	16	21
Others	173	104	277
Total	452	722	1 174

MEDICAL EXAMINATION UNIT

Teachers

First year teachers-in-training are seen at the request of the Colleges of Advanced Education. In 1983, 1 256 students were examined. One was considered unfit for teaching on psychological grounds, 16 were to be reviewed, 51 were referred to specialists and 15 referred to the National Acoustic Laboratory.

Graduands are seen to be classified for superannuation purposes. In 1983, 709 were examined and nine were refered for further opinion.

Most Friday afternoons school sisters make themselves available in their office for appointments, and many of these are for audiometric examinations of teachers who are examined by Government medical officers. In country areas of the State, 588 such tests were carried out and in Brisbane peripheral centres 80 teachers were tested.

School Health Consultative Clinics

The weekly sessions by the consultant paediatric endocrinologist continue. A total of 51 new cases were referred by school medical officers. As mentioned previously, this is purely a consultative clinic. Again many apparently normal healthy children have been found to require investigation and treatment for disorders of growth.

Hearing Assessment Clinics

Two school medical officers continue to hold weekly clinics for children suspected of having hearing impairment.

The following table shows the sources of referral to the Hearing Assessment Clinic.

SOURCE OF REFERRAL TO HEARING ASSESSMENT CLINICS
Calendar Year 1983

Referred by	Number
Teachers	29
Guidance officers and speech therapists	20
E.N.T. specialists	4
General practitioners	19
Parents	31
School sisters—	36
Total of New Patients	139
Reviews	26
Total Seen	165

The number referred for treatment was 38, while the number referred to the National Acoustic Laboratory for further investigation was 13.

IMMUNIZATION

With the new data collection system it is hoped that more meaningful data on immunization compliance can be obtained. The information is obtained from the new history cards. Information can be obtained for each school sister's district and for the entire State.

For the six-month period from 1-7-83 to 31-12-83 the State-wide results for State pre-school children are as follows:

IMMUNIZATION COMPLIANCE FOR STATE PRE-SCHOOL CHILDREN
July–December 1983

Number of Children Seen—17 394

Immunization	Doses Received	Percentage		Immunization Compliance
Triple Antigen/C.D.T.	0	1.7		Unimmunized
	1–3	23.5		Partially immunized
	4	52.1	73.2	Fully immunized
	5	21.1		Fully immunized
	?	5.9		Unknown
Sabin	0	2.8		Unimmunized
	1–2	5.4		Partially immunized
	3–4	87.6		Fully immunized
	?	8.6		Unknown
Measles	0	38.7		Unimmunized
	1	55.1		Immunized
	?	10.5		Unknown
Mumps	0	70.9		Unimmunized
	1	20.7		Immunized
	?	12.8		Unknown

Division of Community Medicine

Director: M. CHEONG, M.B., B.S.(Qld), F.R.C.P.(Edin.)

Administration Officer: G. R. SCOTT

Senior Social Worker: E. P. DOBBYN, B.Soc.Wk.(Qld.) (to 18-5-84)

Acting Senior Social Worker: R. A. EYLES, B.Soc.Wk.(Qld.) (from 21-5-84)

Principal Community Health Nurse: B. MURRAY, R.N., Dip.NursingAdministration,
Dip.AppliedScience,CommunityHealthNursing, F.C.N.A.

Assistant Principal Community Health Nurse. P. HIGGINS, R.N. Dip.AppliedScience,CommunityHealthNursing, F.C.N.A.

COMMUNITY HEALTH SERVICES

A decade has passed since the creation of the Division of Community Medicine in 1973. This annual report will review the advances that have been made over the last 10 years.

REVIEW OF A DECADE'S OPERATION

Community health services centres have been developed throughout Queensland at major centres of population providing access to 98 per cent of the population. Community health provides services that are unique and not provided by hospital services or other Divisions of the Department of Health in Queensland. The unique features include services delivered to the client's home as a preferred method of providing services, and the mechanism for the provision of medical equipment loans and the provision of home oxygen supplies as major contributions to a home care programme.

New processes of health care are in action State-wide. The Community Health Service responds to a telephone call rather than a written communication. It prefers to travel to the client's home for the purpose of identifying the actual problems of a particular client using the professional skills of assessment rather than relying on the patient's description of his problems in an artificial office environment. The Community Health Service operates in a problem-orientated manner aiming to solve the patient's problems rather than provide only a professional service which does not necessarily solve the patient's stated problem. It attempts to provide alternatives which the client takes the responsibility for utilizing.

It has always been difficult to measure the outcome of a health service. However, it is possible for the patient to record the fact that his particular problem has been solved and he has been provided with assistance in a timely way and has been made aware of alternatives which he did not know were possible.

The Community Health Service has reached a degree of excellence where written standards have been developed and in the future it will be possible to measure the quality of a community health service against the written standard. It provides multidisciplinary services from a large range of health professionals including medical officers, social workers, community health nurses, psychologists, physiotherapists, occupational therapists, speech therapists, home help organizers, health education officers, community health aides and podiatrists.

Home help services are available State-wide where the service has been prescribed by the Community Health Service. This part-time domestic service may be provided by the Health Department for aged and sick people who are unable to care for their homes. It is a free service for people receiving a full social service pension, while others unable to satisfy a means test, are required to pay.

It can be stated that in Queensland the Community Health Service, by its method of assessing the needs of an individual and utilizing all of the services that community provides, is able to offer satisfactory alternatives to hospital or institutional care. The home oxygen support programme is a good example of enabling a patient to live at home rather than be hospitalized because the major requirement is for the provision of oxygen for life support.

The elderly have been helped to make a decision to stay in their own homes with the support of their own community and their own families rather than making the unwanted decision to enter a nursing home or an aged persons home.

STAFFING

Mr John Miles, Administration Officer

It is important to record the fact that for nearly a decade John Miles was Administration Officer of the Division of Community Medicine. His knowledge and skill helped steer this new enterprise through its early years. The management of the community health programme has been an exercise in Commonwealth/State relations and Queensland has provided a well administered and effective community health service offering different models of administration as the decade proceeded.

Miss Eileen Dobbyn, Senior Social Worker

Eileen Dobbyn retired as Senior Social Worker, Division of Community Medicine, on 18th May, 1984, after two decades of service to the Queensland Department of Health. Miss Dobbyn's contribution to the Department was discussed in the section on medical administration.

Miss Glenda McChesney-Clark, Principal Community Health Nurse

Glenda McChesney-Clark was the first Principal Community Health Nurse in the Division of Community Medicine, and the development of the nursing component Statewide has been her complete responsibility. Pioneering new services is an exciting challenge for a health professional but it takes great skill to implement a new service. It is true that the Division of Community Medicine has attracted highly qualified nurses to undertake this new form of health service delivery, but it is just as true that the quality of service derives from its leadership. The development of community health nursing in Queensland to its present stage has only been possible because of the quality of the leadership given by Glenda McChesney-Clark.

SOCIAL WORK

During the past year, 55 social worker positions have been occupied in community health and community home care centres. Particular difficulties, however, continue to exist in filling positions which become vacant in country areas. The vacancies are not attracting experienced staff due to two main problems: professional isolation and where new graduates are concerned, the lack of senior supervision; and social isolation and the difficulty in securing suitable accommodation.

The most notable change in the social work component of the service was the retirement in May, 1984, of Miss Eileen Dobbyn. Miss Dobbyn was the first appointee to the position of Senior Social Worker and pioneered the development of many initiatives in the service. Mrs Roslyn Eyles, Senior Social Worker, Gold Coast, has been seconded to act in the position.

The Senior Social Worker based in Brisbane continues to assume supervisory responsibility for the metropolitan, near metropolitan and North Coast centres, while the Acting Senior Social Worker, Gold Coast, supervises South-East Queensland centres' staff and the Senior Social Worker in Townsville co-ordinates the work of social workers in that city as well as in Cairns, Charters Towers and Bowen.

The focus of work has varied from centre to centre, dependent on local demands and identified needs; but in general, all age groups have been served, including a wide range of clients with every variety of health or social disability. The present socio-economic climate has continued to influence the lives of people and in most centres, particularly those in areas with a predominantly young population, the demand for services continues to increase. Problems relating to, or resulting from, unemployment and less stable family situations are prevalent, particularly where they concern single-parent families and adolescents. Work with the elderly continues to be a significant part of most caseloads as does the follow-up and support in the community of discharged psychiatric patients.

Many factors contribute to the pressure of work on community health staff, not the least of which is the fact that other departments directly concerned in the welfare field have been able to define strict boundaries for the acceptance of referrals, while community health accepts the broad and sometimes undefined range of problems. Staff, while not refusing referrals, now find they need to assess more carefully an initial contact and where possible, establish priorities for service. The situation is even more acute in country areas, where some welfare agencies only provide visiting monthly consultations, leaving our staff to monitor and provide on-going service delivery.

Wherever practicable, social workers have contributed towards the development of groups for clients with specific problems, as well as providing professional support and consultations to community groups and organizations when necessary.

The social workers continue to provide a support and counselling service to parents who have lost a baby through Sudden Infant Death Syndrome. Liaison is maintained with the Department's pathologist and laboratory staff in the immediate notification of cases throughout the State. A most satisfactory liaison and co-operation continues also to exist with police officers, ambulance bearers and maternal and child health nurses.

The approved quarterly regional social work meetings for north and south metropolitan areas, the North Coast and Toowoomba have continued throughout the year and have proved most valuable. The meetings provide training and education opportunities for both new and established staff, reduce the feeling of isolation experienced by workers, especially in more isolated areas and have created a greater sense of identity with the Division.

A number of social workers are taking advantage of the Study and Research Assistance Scheme to acquire further formal qualifications. While most workers do attend in their own time work-related seminars, conferences and workshops, appreciation is expressed to the Department for the recognition that professional knowledge and skills need to be continually updated and to that end, for approval for staff to attend a broad variety of appropriate courses and workshops.

Supervised training placements have again been offered by experienced social workers in a number of centres to social work and social welfare students from Queensland and James Cook Universities and from Colleges of Advanced Education. A number of secondary school students have also undertaken short-term work experience placements in the centres.

The Senior Social Worker, Head Office, continues to carry advisory and consultative responsibility for Ministerial and Departmental referrals, recommendations in relation to staff establishments and appointments in hospital social work departments, liaison and consultation with social workers in country hospitals and consultation with Directors of Divisions not employing social workers. The Senior Social Worker is a Departmental representative on the University Social Work Faculty Board and the Advisory Committee of the North Brisbane College of Advanced Education and an executive member of the Red Cross Hospital Services Committee.

Senior social worker positions in the Division are on the establishment at:—

Head Office (Roslyn Eyles [acting]); Metropolitan and near North Coast (Barbara Richardson); Gold Coast (Margaret Byrne [acting]) and Townsville (Hilary Dickinson).

NURSING

STAFFING

The nursing staff establishment is 176, of which 170 positions were filled at 30th June. It is pleasing that appointments were made at three locations where provision existed for senior community health nurse positions. In July, 1983, the position of Nurse Educator with the Division was transferred to Nursing Services.

EDUCATION

Student Nurses

Many requests are received for placement of students of various courses, the majority of which are nursing courses. This situation applies throughout the State in towns where nurse training programmes are carried out at hospitals and where there is also a community health services centre. The introduction of the 1200-hour curriculum for student nurses in hospitals has resulted in more time being allocated to education in community practice. Community work experience has been given to nurse students from basic and post-basic nurse education programmes, for varying periods.

Continuing Education

Following appointment to the Division a community health nurse undertakes an orientation in-service course. Six nurses participated in this course during the year.

Whilst there is not a formal programme for continuing education to follow the initial in-service programme, several nurses have applied for and been given approval to undertake appropriate educational courses. During the year community health nurses have graduated from: Queensland Institute of Technology, Diploma in Applied Science (Community Nursing), a one-year course, from which three nurses graduated; Maternal and Child Health Certificate (6 months, one nurse); post-basic geriatric nursing course (Princess Alexandra Hospital) (6 months, one nurse); enterostomaltherapy course (Princess Alexandra Hospital) (6 weeks, one nurse); diabetic education course (Royal Brisbane Hospital) (1 week, one nurse).

Nurses undertaking these courses came from community health service centres in provincial as well as metropolitan areas. The acquisition of special skills through such courses results, not only in the ability to improve client case work of the particular nurse, but extends her ability as a consultant to colleagues, and as a source of information and instruction. Added knowledge is able to be shared with careers in other health care facilities.

Community health nurses are undertaking educational pursuits at tertiary institutions or in external study courses. Two senior community health nurses are to undertake short-term (approximately 6 months) Kellogg Scholarships in the United States of America. They have been granted study leave and will commence their studies in North America in September.

Students of Other Health Professions

Community health nurses also become involved in contributing to community work experience for students of other disciplines, notably students of the dietetic course conducted at Queensland Institute of Technology, for whom the nurses co-ordinate their programme, spend two days at community health service centres.

These contributions to the education of future health professionals whose roles can reasonably be expected to embrace greater community practice, are considered necessary in terms of total health care. However, it must be acknowledged that these education activities increase the already considerable workload of present staff.

Community Education

The work of community health nurses covers several aspects of service and priority lies with fulfilling the demands of client case work.

Even so, the role of community educator is one for which there is much need. Following identification of a need for educational programmes, nurses frequently become involved in developing and delivering group instruction on matters of health maintenance. In some instances this is done in conjunction with a health promotions officer at a community health service centre; however, the nurse frequently initiates and delivers the programme.

With greater emphasis being placed on the need for more home care of disabled/sick persons, many requests are received for community health nurses to speak to groups, sometimes at nursing in-service programmes, at other health agencies, to personnel of volunteer groups, and pre-retirement seminars, in order to give information to assist with the home care of clients. It is pleasing that several nurses have sought opportunities to improve their public-speaking abilities by participation in courses (both privately and through the Management Services Branch).

SCHOOL HEALTH WORK

In several community health service centres the health assessment of children in schools forms a considerable component of the work of community health nurses, who work by arrangement with the Division of Child Health and in accordance with the policies of that Division. Of the 35 community health nurses involved in school health work, 18 attended a week-long school health seminar held in July, 1983.

The presence of a health team in the Woody Point Special School is an example of co-operation between two government departments directed towards the care of a group of exceptional children.

CLIENT CASE WORK: HOSPITAL—COMMUNITY LIAISON

Client case work constitutes the greatest proportion of the work of community health nurses. The continuing care of patients following discharge from hospitals is a significant factor in the total health care of a person. In order to facilitate patient care following discharge from hospitals, a community health nurse undertakes a liaison role between the hospital and the community. Community-hospital liaison nurses operate at Brisbane metropolitan and provincial hospitals using a work model approved by the Department. Such liaison nurses function full-time in four metropolitan hospitals—Royal Brisbane, Princess Alexandra, the Mater and Prince Charles. A part-time service is provided in Queen Elizabeth II, Nambour General, Rockhampton Base, Toowoomba General and Kingaroy Hospitals. In January the system was established on a part-time basis in Redcliffe Hospital.

Staff from community home care centres in Fortitude Valley liaise with the Rosemount Psychiatric Unit, Royal Brisbane Hospital, on a planned basis.

SCHOOL THERAPY SERVICES

OCCUPATIONAL THERAPY

Brisbane West Region

This region has continued to be serviced by one occupational therapist who is based at the Kenmore Special Education Unit.

Time has been spent fairly evenly between assessing and treating children at the Kenmore centre and spending time in the many primary schools, special units, learning disabled units and special pre-schools of the region. Time in the various schools was spent assessing children, running individual and group treatment programmes and providing teacher programmes.

An important role has also been talks to guidance officers, teachers and parents relating to the detection and manifestation of learning disabilities and possible treatment ideas both at school and at home.

Brisbane North Region

The therapist in this region services schools situated in the north region of Brisbane, with the Aspley East State School designated as the base school. A total of 54 schools were serviced this year with the breakdown of schools as follows:—

State pre-schools	6
State primary schools	31
Special schools or special education units	6
State high schools	1
Private pre-schools or primary schools	10

Statistics on Occupational Therapy Cases, Brisbane North Region, July 1983–June, 84

Occupational Therapy Assessments—	
Referrals	130
New assessments	115
Children waiting to be assessed	15
Review assessments	55
Children receiving treatment—	
Withdrawn for individual therapy	30
Classroom and/or parental support programmes	135
Withdrawn for group therapy	17
Referral to a more appropriate source/not warranting intervention/ or did not wish to undergo programme	5
Children on waiting list for therapy	23

Home programmes made up the majority of the caseload while those childen with more serious problems attended individual therapy sessions. Children who received group therapy did so at special education units or other schools where a group of children with specific needs had been identified. Many children received more than one type of programme.

Cases were drawn from an area that ranged from the near city (eg. New Farm) to the outer suburbs (eg. Petrie). Children were often assessed at their schools to facilitate communication between the therapist and Education Department staff involved with the child, and when this was not possible the assessment was adminstered at the Aspley East Therapy Centre.

The majority of children were referred initially by Education Department staff (in particular by guidance officers) with each child then being further assessed by a medical practitioner before undergoing occupational therapy assessment or treatment.

Origin of Referrals (%)

Guidance officers	50.5
Remedial teachers	19
Teachers	16
Occupational therapists	7
Principals or assistant principal infants	2.25
Speech therapists	2
School medical officers	1.5
Physiotherapists	1
Paediatricians	0.75

During the second half of 1983 two third-year occupational therapy students attended the centre for their clinical placements. The students were involved with individual case work, group therapy and were able to give extra input to the Aspley Special Pre-School and the Kelvin Grove and Kedron Special Education Units.

Additional Activities

Talks were addressed to guidance officers, teachers, remedial teachers and physical education students regarding new referral procedures, criteria for referral and the role of occupational therapists in schools. The occupational therapist was also involved in the Physical Education Advisory Committee to Special Education and the Monitoring Committee for Therapy Services in Schools.

PHYSIOTHERAPY

Brisbane South Region

The Brisbane South Region is serviced by one physiotherapist who works from four base schools: the Queensland School for the Deaf, Narbethong School for the Visually Handicapped, Macgregor State School and Upper Mount Gravatt State School (Learning Disabilities Class).

In addition, children were seen from within the region from seven pre-schools, 31 primary schools, three special schools and six private schools within the 12-month period.

Number of children receiving the serice: Assessments

Seventy-seven new referrals were received this year with 75 children being assessed (Table 1).

TABLE 1
PHYSIOTHERAPY ASSESSMENTS

Number of referrals to physiotherapy	77
Number of assessments	75
Number of children awaiting assessment	2

Referrals

Children were referred by a number of professional staff with the greatest number of referrals, 49%, coming from teachers (Table 2).

TABLE 2
SOURCE OF REFERRALS

Teachers	38	49.3%
Guidance officers	24	31.2%
Remedial teachers	6	7.8%
Advisory teachers	6	7.8%
Speech therapists	2	2.6%
School medical officers	1	1.3%

Treatment

A total of 149 children received physiotherapy treatment in the 1983–84 year. The distribution of children in the schools is indicated in Table 3.

TABLE 3
NUMBER OF CHILDREN FROM SCHOOLS RECEIVING TREATMENT

Queensland School for the Deaf	20
Narbethong	31
MacGregor	31
Upper Mount Gravatt	10
Other	57
Total	149

Programmes

A number of different treatment methods were used (Table 4) with many children receiving more than one type of programme.

TABLE 4
TREATMENT PROGRAMME

Individual therapy	37
Group therapy	7
Home programme	114
School programme teacher advice	44
Total	202
	Adjusted total 149*

* Total is adjusted as some children are receiving more than one form of treatment.

Other Duties

The physiotherapist again had a large advisory and educative role. In addition to advice given to parents and teachers, a formal lecture was given to trainee remedial teachers at the Mount Gravatt College of Advanced Education.

The physiotherapist has had continued involvement in the following committees: S.H.E.P.A.R.D. (Severely Handicapped Educational Programme and Resource Development Unit Monitoring Committee); Advisory Committee on Special Equipment Severely Disabled Children—Special Schools—a sub-committee of the Interdepartmental Standing Committee—Health, Education and Welfare; and the Therapist Monitoring Committee, attended by Health and Education Department staff. In addition, the physiotherapist provided input to the S.H.E.P.A.R.D. Unit for resource packages that will be distributed State-wide.

Division of Geriatrics

Director: Vacant

The Division of Geriatrics was created in 1961 to develop health-related facilities for the aged. Home care facilities for the aged were originally established under this Division and are now widely developed throughout the State as part of the Community Health Services under the Division of Community Medicine. The Division of Geriatrics now functions as a specialist advisory unit. Among its responsibilities are policy formulation, planning services, consultation and education in the field of aged care.

The Aged Care Policy formulated in this Department in 1983 is in the process of implementation. Proposals such as Ageline have already been implemented and a number of working parties have been convened addressing other specific proposals.

Ageline

In July, 1983, a telephone information service for the aged was established within the Department. This service called ''Ageline'' is designed to provide a high profile contact point for aged persons and those associated with them who seek assistance. Callers can obtain advice on the availability of services for the aged and access points to such services for the cost of a local telephone call from anywhere in the State.

Staffing

Over the past 12 months there has been a complete change in the personnel of the Division. Mrs Lyndal van der Est, who held the position of Senior Social Worker for the past 10 years, retired in October 1983. Her successor was Mr Ken Culpan. Also, subsequent to the transfer of the other social worker, the Division now has the services of two social work associates.

Applications for Admission to Departmental Accommodation for Aged People

The procedures involved in assessing applicants for admission to Departmental facilities in the metropolitan area underwent continued refinement. Notably, the functions undertaken by Departmental Services officers in this area have been transferred to the Division of Geriatrics. This rationalization has expedited the processing of applications and information retrieval. The social work associate responsible for monitoring and processing the applications continues to liaise closely with institutions, professionals, applicants and their families.

Committees

The Senior Worker was involved on Committees of the Queensland Council on the Ageing. As well he served on a number of Departmental committees and working parties concerned with the care of the aged.

Consultation

The social work staff continue to provide a specialized consultative service related to the needs of the elderly, available resources, methods and programmes through which areas of unmet need can be addressed. The service also provided some individual consultations to elderly persons and their relatives.

Liaison with community groups was also effected through staff's responding to a number of invitations to attend general meetings of organizations concerned with the care of the aged.

The Senior Social Worker provided consultation on the selection of social workers and welfare officers for positions within the Department and Senior Citizens Clubs.

The social work section has also been involved in the development of research projects into the care of the aged (e.g. geriatric assessment and Senior Citizens Centres) and the evaluation of proposals directed at the aged seeking funding through the Department.

Education

With the growing develoments in aged care, education is an important part of the services provided by the division. Addresses were given by the Senior Social Worker to retirement seminars, in-service courses for residential care officers, community groups, schools, geriatric nursing courses, and in-service programmes for Departmental social work and nursing staff. Due to the reduction in the number of social workers in the Division available to meet the increasing requests for speakers, Community Medicine social work and nursing staff have assisted in meeting some of these engagements.

Information

Each year the Division compiles a list of nursing homes, hostel and unit accommodation available in Brisbane area for use by professionals servicing the elderly. The Division also disseminates a variety of printed material aimed at updating and informing those working within the field.

Division of Alcohol and Drug Dependence Services

Director: Dr M. H. BOLTON, M.B., B.S.

Deputy Director (Treatment): Dr J. R. CLARKE, M.B., B.S., B.M.Sc.

Deputy Director (Prevention and Co-ordination): Mr L. P. LUMSDEN, M.A., M.A.P.S.

Assistant Director (Staff and Community Development): Mr R. J. CARVOLTH, B.A.(Hons.), M.A.P.S.

Administration Officer: Mr R. E. FLETCHER

Superintendent of Nursing: Mr P. STARR, R.P.N., R.G.N., Dip.A.P.P.S.C.N.U.R.S.A.D.M.

OVERVIEW

So that the Alcohol and Drug Dependence Services can discharge its responsibilities concerning the prevention and treatment of problems related to the use of alcohol and other drugs in the most efficient and cost-effective way, policy has been consolidated into the following directions:—

(i) Encouraging, facilitating and co-ordinating the role taken by established health and welfare services in the prevention and treatment of problems related to the use of alcohol and other drugs;

(ii) Developing its own clinical services so that improved standards of care are delivered to people suffering from problems related to the use of alcohol and other drugs and monitoring/evaluating these services. In particular, appropriate services are being and will be developed for specific sub-populations (e.g. youth, illicit drug dependence, women, recidivists);

(iii) Having an increased role in prevention, community development, evaluation and research and training of health and welfare workers so that improved services for the prevention and treatment of problems related tó the use of alcohol and other drugs may be developed throughout Queensland.

In keeping with this policy, it is envisaged that a network of Hospital Alcohol and Drug Advisory Committees be established in both metropolitan and appropriate regional hospitals and that Area Alcohol and Drug Advisory Committees be established in communities served by those hospitals in regional areas. Plans have been developed to locate two staff in each of seven regions in the State (instead of the current total of three staff in two regions) so that they may facilitate the work of these committees in promoting and assisting in the development of services for the prevention and treatment of problems related to the use of alcohol and other drugs. The already well developed emphasis on working with community agencies and statutory health services will be increased.

The main treatment objective of the service has been to concentrate on further developing out-patient and community-based services. This will continue and be complemented by the development of standardized assessment procedures. A small study of the Drug Dependence Clinic has been performed, a computerized monitoring system of the use of Methadone has been developed and will be complemented by improved administrative procedures concerning the registration, de-registration and supervision of the progress of people on Methadone, and approval has been obtained for the establishment of a second Drug Dependence Clinic so that improved services for the treatment of illicit narcotic dependence may be delivered. Following the study on the work of the Wacol Rehabilitation Clinic, sub-programmes are being developed at Wacol for particular sub-populations with specific problems related to dependence. The role of Pavilion 4 as a general hospital-based unit is being reviewed and upgraded.

Some rationalization of non-clinical services has been planned so that increased, more effective services can be provided related to prevention, early intervention and training. The research/evaluation/data utilization programme has been strengthened and has begun to provide the information base that is necessary for rational planning and efficient and cost-effective service delivery.

The Consultative Committee on Alcohol and Drug Dependence Services has continued to provide valuable assistance and is further developing its role so that it can be of maximum value to the community. Visits by three eminent international experts in various aspects of drug use have provided fresh ideas and sustained momentum of staff in their respective ideas of endeavour. Our two visiting psychiatrists (Dr A. Freed and Dr I. Curtis) have continued to provide invaluable assistance and it is hoped their efforts will be supplemented by additional input of this kind in the near future. We are again grateful for the close co-operation and excellent liaison we enjoy with a range of community agencies, both statutory and voluntary. We are most appreciative of the help given to us over the year by a number of other Divisions within the Department, particularly the Divisions of Environmental and Occupational Health, Research and Planning, and Health Promotion. Officers have continued to contribute to a number of interstate committees and groups which address problems related to alcohol and other drug use on a national basis.

TREATMENT

BIALA

In-patient's Programme

The Biala in-patient programme has continued to be very active, with admissions for short-term sobering-up detoxification. This volume of patients and the amount of patients needing specialized attention, e.g. narcotic addicts on a Clonidine withdrawal programme, are stretching resources.

Placement of staff in other areas of the service is continuing on an *ad hoc* basis, when numbers permit. There have also been reciprocal visits with Aboriginal centres, St. Vincent de Paul and the Salvation Army. Students from metropolitan hospitals, Universities and the Queensland Institute of Technology are attending in increasing numbers.

Out-patient's Programme

The Biala out-patient programme provides individual counselling; couple and family therapy; group therapy; counselling for families and relatives; a duty roster for telephone counselling and seeing patients off the street; information service about community resources for patients and referral as appropriate; liaison with prisons, hospitals and other helping agencies; an education and supervision service for various students; preparation of court reports; involvement with the Queensland Marriage Guidance Council (a new initiative). Patients are seen on a long- or short-term basis and home visits are done where necessary—1 331 this financial year. Evening clinics continue to be held to assist working patients. The total recorded number of out-patients seen by staff was 7 959 (an increase of 18 per cent since last year).

The teenage and adolescent treatment programme has the major objective of assisting young people to live the lifestyle that they choose without the need to use substances. This is achieved in both individual and group settings, with involvement of parents and significant others where possible. This year the rate of referral of new patients has been 5.6 per week.

A new, revitalized day programme commenced in January, 1984. This caters for a wide variety of patients who, for various reasons, are not suitable or able to have in-patient treatment, but require on-going support. Emphasis is placed on relationships with others; communicaton skills; basic daily living and coping skills; social and recreational activities, etc. Since its inception, 164 patients have attended with 15 to 25 being regular daily attenders. The farms programme offers recidivist and brain-damaged patients alternatives conducive to encouraging them to cease or minimize drinking patterns, and to modify behaviour and lifestyle. One way of doing this is to offer "farm" placements which provide supervised share accommodation, not unlike a family group home. This year, 73 referrals were made to the programme and 57 were able to be placed.

Liaison with community agencies is an integral part of Alcohol and Drug Dependence Services' operation. It helps the service to remain attuned to the needs and views of the wider community, to implement effective conjoint strategies and to maximize treatment resources and minimize wasteful duplication. Regular meetings are held in Biala by Alcoholics Anonymous, Al-Anon, Alateen, GROW and Narcotics Anonymous.

The Community Voluntary Employment Scheme aims to place people who are being treated by our service as in-patients or out-patients in voluntary work. The scheme is aimed at people who are unable to find paid work and are not ready to function in paid employment. During this year, 96 patients were interviewed for voluntary work of which 64 were placed; 16 agencies have accepted workers; six have gone on to paid full or part-time employment.

The authorized voluntary workers (A.V.W.) provide a service and amenities of a nature not able to be provided by the Government, e.g. cigarettes, personal errands, etc. They also maintain and service the "Coffee Club" within Biala. Approximately five workers a day provide this service. New initiatives this year have included expanding the A.V.W. network to provide assistance at Wacol Rehabilitation Clinic; a snack bar at Biala. The funds raised by A.V.W.'s have been utilized for the provision of specific amenities and resources used in the day programme and ward area, thus providing benefit to patients either directly or by approved programme enhancement.

Staff are also involved in half-way houses and residences programme which aims to provide a supportive suburban living environment which is free from alcohol/drug use. Currently there are seven such establishments. There has also been increasing involvement in assisting women's refuges with problems that they encounter in the alcohol and other drug area.

DRUG DEPENDENCE CLINIC

The clinic has continued to play an active role in the on-going management of people with narcotic drug dependencies, using a methadone maintenance programme and/or counselling.

The numbers of new patients treated has increased by 14 per cent, but the total patients interviewed, treated and counselled increased by almost 30 per cent. This has continued to put considerable strain on the limited resources available. The staff has been increased by one full-time medical officer and a temporary counsellor employed under the N.E.S.A. Scheme, but this will not provide sufficiently for an increasing clientele.

Liaison and consultation with probation and parole officers, various community health centres, hospitals and general practioners is seen as having been fruitful.

Instructive talks and lectures have been given to student nurses at various training hospitals, medical students, phychology, social work and pharmacy students; also to the RAAF military police, prison officers and Lifeline workers.

WACOL REHABILITATION CLINIC

This is a medium- to long-term residential treatment facility for the recovery of patients affected by the abuse of addictive substances. Up to 100 males and 18 females can be accommodated. The length of stay can be variable. It is usually three to six weeks, but in selected cases this may be extended to up to 12 months.

All patients initially attend an assessment group. Together with staff, an appropriate course of therapy is decided. This includes educational programmes involving lecture/discussions and films; activity programmes involving crafts and manual work; and psychotherapy groups. Attendance at A.A. and GROW meetings is encouraged. This year a regular weekly meeting of N.A. was commenced. A community liaison service has been developed recently in the Inala and Ipswich areas.

The physical environment project for 1983–84 was the upgrading of the lawns at the clinic.

PAVILION 4—ROYAL BRISBANE HOSPITAL

Pavilion 4 continues to deliver a short-term in-patient/out-patient rehabilitation programme, followed by a three-month, weekly follow-up programme. The main objectives have been to help patients come to terms with and/or improve the quality of their day-to-day lives, in areas such as physical health, personal meaningfulness, family interaction, social functioning and occupational performance.

Group sessions remain the focal point of the therapy programme. Individual sessions with patients, together with relatives, and employee advisers/union representatives, have increased. These serve the purpose of establishing community support and simultaneously act as an educational forum.

During this year, case conferences were organized for fifth year medical students in conjunction with Dr J. Price, Head of Psychiatry, University of Queensland. About 50 students took part. Also, staff did a review of female alcoholic dependent people. From this, a group specifically for female dependent persons has started at Pavilion 4 and is going well.

COMMUNITY LIAISON PROGRAMME

This programme continues to service community health centres in South-East Queensland. Gold Coast Hospital is also serviced and regular liaison is carried out with the Drug Referral Centre at West Burleigh. Staff act in a communicative/educative and counselling role and facilitate referrals to Alcohol and Drug Dependence Services in-patient or out-patient facilities where this is indicated.

Requests for home or community visits from a wide range of individuals and agencies have been responded to. This has included requests from individuals having problems with substance abuse; or from relatives, friends, volunteers and professionals who are involved with individuals having problems. Follow-up support and counselling of clients who have been in-patients of Alcohol and Drug Dependence Services has been provided when requested.

Over 300 clients have been seen in the community either jointly with other staff, such as community health staff, or solely by the staff of this programme. All requests have been responded to, but limitations on staff and transport available has had a restrictive effect on the frequency of follow-up of some clients particularly in the Gold Coast area.

Community groups have been addressed from time to time and there has been an input into the training programme for volunteers working at the Drug Referral Centre at West Burleigh.

ARMED FORCES PROGRAMME

The service continues to be involved with all branches of the Armed Forces.

Types of lectures given have been to Senior NCO's as part of the promotions courses; RAAF Police Drug Investigators Course; information to companies posting to S.E. Asia; senior officers; and Military Wive's Association. Individual contacts have also continued, and in fact, referrals have increased since more awareness lectures have been delivered.

PREVENTION

The majority of activity in this area was concentrated on project planning and policy development issues. Work was carried out on alcohol and drug educational material with the Division of Health Promotion, the first of which became available in June. Services to women's refuges continued and have become a routine part of out-patient community work. The Interlock Brisbane Project did not eventuate during 1983–84 due to the need to amend the Liquor Act to make funds available from the Liquor Act Trust Fund. Employee assistance programmes continue to grow in large organizations; however, small industry will remain unserviced without interlock programmes.

LONG-TERM POLICY AND COMMUNITY PROGRAMMES

Development of co-ordinated National policy on alcohol and drug issues continued through formal Inter-Governmental bodies such as the National (Standing) Committee on Alcohol, the Drug Education Sub-Committee and the Working Party on National Drug Related Statistical Collections of the Health Committee on Drugs of Dependence. Informal exchanges between government officers ensured depth and co-ordination in programme and policy development.

Working papers produced for the Department subcommittee on long-term prevention strategies resulted in the development and acceptance of decentralized services through hospitals and community organizations backed up where possible by specialist staff. Other policy research included detailed documentation of and project proposals for a special needs refuge for alcohol and drug dependent women which is now being studied by voluntary organizations in Brisbane.

A detailed paper on Aboriginal Alcohol Dependence and Crime was presented at a conference sponsored by the Australian Institute of Criminology, the proceedings of which were published during 1983–84.

The Minister's Consultative Committee on Alcohol continued to be active, providing valuable input and advice on a range of policy issues. Regular contact was maintained with the Division of Health Promotion and the Education Department's Alcohol and Drug Programmes Unit.

TERTIARY TRAINING

Medical education in the area of alcohol and drug dependence was extended and is still well ahead of that in other faculties at the University of Queensland. However, Alcohol and Drug Dependence Services has been invited to submit a proposal for a fourth year subject within the Psychology Department. An increased emphasis on alcohol and drug issues occurred in courses at the North Brisbane College of Advanced Education.

Contact was maintained with various professional bodies and colleges. Discussions were held with a number of overseas visitors.

ABORIGINAL ALCOHOL PROJECT TEAM

By June 1984, there were nine autonomous in-patient rehabilitation programmes providing 143 beds and employing 27 staff. Six further graduates of the Aboriginal Counsellor Training Course were employed with the Alcohol and Drug Dependence Services under the National Employment Strategy for Aboriginals Scheme. Three halfway houses were established providing 28 beds and employing four staff. Sixteen out-patient programmes were operating employing 21 staff. A total of 58 people are now employed specifically on alcohol and drug programmes, and many other trainees work in related fields. Efforts to extend the programme to other communities continue, as does the emphasis on diversity within the programme and on out-patient contact. Twenty trainees completed Stage 1 of the Training Course in 1983–84. A weekly in-service training session for employees of agencies working in Aboriginal health or welfare programmes, was introduced in June, 1984.

COMMUNITY DEVELOPMENT AND RESOURCES PROGRAMMES

This has been an important year of extension of training programmes to further areas in the health and welfare fields, in personnel programmes and in the expansion of hotel and club patron care training in Colleges of Technical and Further Education. Consolidation has occurred in the formalization and documentation process within training.

In terms of wider communications and promotion of concepts and programmes developed within the patron care and community development areas, some four papers have been presented at national conferences. Presentations have also been made at conferences conducted by the International Council on Alcohol and the Addictions in Hong Kong and Athens. A major publication, was the editing and production of "Innovations, Proceedings of the National Drug Institute, Brisbane, Australia, 1983".

The modest rural and regional programme of three staff at two centres has had a major expansion approved and some 14 staff will be located in nine regional centres. These staff, psychologists and program officers, will provide consultancy, maintain a clinical load, and conduct training and development activities with hospitals and other Government and community agencies. These activities will initially be limited to the centres, but it is planned to extend the programme across the regions in later phases of the development.

This programme is proceeding now within the general context of the plan for statewide development of the Service which will involve the establishment of Hospital and Area Alcohol and Drug Advisory Committees, to plan for development of services.

COMMUNITY DEVELOPMENT: PATRON CARE PROGRAMME

The Patron Care programme, with a staff of two officers, influences over 400 liquor outlets in South-East Queensland. Its primary function is to promote moderation by patrons who choose to drink alcohol on licensed premises. The programme has been in operation for three years and the following figures indicate progressive growth in that time:—

	Hotels	Clubs	In-house Training Venues	Bar Staff Training Centres	Pamphlet Distribution
July 81	7	..	..	..	140
July 82	230	32	1	2	12 000
July 83	250	70	25	5	50 000
July 84	270	150	38	12	85 000

Almost 200 of these liquor outlets permanently display the Health Department pamphlet "When Drinking Doesn't Help . . ." at or near the point of liquor sale. Early intervention into alcohol dependence enhances the likelihood of recovery and a return to a healthier lifestyle. There is on-going incidence of persons contacting the Alcohol and Drug Dependence Services as a result of these strategies.

Programme officers have input into the training of approximately 1 000 intending bar staff each year at centres which are mainly run by the T.A.F.E. Colleges or C.Y.S.S. groups. Among these young trainees, program officers frequently encounter individuals requesting guidance in specific referral procedures for an alcohol dependent friend, relation or neighbour. In the long term it is hoped that programme influence on the liquor industry will result in a healthier drinking model for tomorrow's youth than has been the case in the past.

COMMUNITY DEVELOPMENT: RURAL AND REGIONAL PROGRAMME

In the Toowoomba General Hospital, visiting service staff have continued to support the development of the alcohol programme and the hospital has taken the commendable step of being the first to establish its Alcohol and Drug Advisory Committee.

The Ipswich Group has developed an educational and project planning role, and one interesting project has been the drink driver diversionary programme that has begun with referrals for a six-month contract of counselling for those assessed as being alcohol dependent.

The Bundaberg Alcohol and Drug Concern Group has continued in developing a range of further support and intervention initiatives, with continuing resource from this service. Following an awareness series conducted through the local paper, sufficient enthusiastic public debate ensued to warrant introduction of the patron care concepts to health, welfare and liquor industry figures in the city. The concern group is also at an advanced stage in the groundwork of implementing an intervention project along the lines of the Community Approach to Drug and Alcohol Problems of the Australian Foundation on Alcoholism and Drug Dependence.

In Townsville a consultative service to the Townsville General Hospital has been instituted and training activities increased. Guidance and support have been upgraded with respect to the Mosman Hall alcohol programme, especially during the period of staffing changes. Significant contributions have been made to project development and management of the Stanley Street half-way house, through the Regional Interest Group of the Alcohol and Drug Problems Association of Queensland (A.D.P.A.Q.).

Our one officer in Mackay has worked up to half time as an honorary staff member of the Mackay Base Hospital. Advances have continued in programme and planning development by the hospital and assessment procedures instituted to review all alcohol-related cases received into the hospital. Major resource has been provided in the development and inauguration of an effective regional interest group of A.D.P.A.Q. Noteworthy support in this initiative has come from the media and from local government in the person of Sir Albert Abbott.

RESOURCE: TRAINING AND STAFF DEVELOPMENT

Continuing the practice of previous years, weekly in-service training sessions are conducted for clinical and counselling staff of the service at Biala and the various other clinical units as requested. In addition, group and individualized training programmes on a wide range of skill and knowledge areas have been implemented on a contract basis in negotiation with programme supervisors and senior nurse therapists.

After the establishment of an overall policy for in-service training and as a consequence of the efforts of selected working-parties, policy and procedure documents on a comprehensive in-service training and certificate course and advanced courses have been completed. Additional documents on supervision and orientation are currently being developed.

As part of the staff development process, staff of the sub-programme have been actively involved in promoting and facilitating staff seminars and special interest workshops involving staff of the service and outside resource personnel. The metropolitan and regional workshop programme for qualified professional groups in the helping community has been running since 1982 and has involved participation by over 80 professional staff from the community, industry and the service.

Entitled "Helping Clients with Substance Related Problems", the workshop programme is based on a series of five modules dealing with the following issues:—

1. Understanding the nature of substance abuse and dependence;
2. Recognizing substance abuse and dependence;
3. Understanding the helping role and the recovery resources available;
4. Understanding and applying the helping processes to clients with substance related problems; and
5. Understanding the nature of prevention and the resources available for prevention programmes.

As a consequence of the workshop programme, working relationships with other helping agencies have been strengthened and further developed. The involvement of occupational health nurses has led to invitation to present education and awareness programmes to managers, supervisors, and staff within local industry. It is anticipated that this trend will continue and expand in the future.

A comprehensive curriculum and syllabus document is currently being developed for the workshop programme as part of the process of producing a workshop training resource package, which will include guidelines, lesson plans, background literature, teaching resources and audio-visual aids such as specially prepared video tapes on selected topics and issues. When completed, the workshop package will be made available on a State-wide basis.

Responsibility for the co-ordination of Alcohol and Drug Dependence Services input into nurse training courses was transferred to this programme at the turn of the year. During the subsequent six months, 28 sessions on substance abuse have been conducted, principally by the nurse educator, for 16 courses run by 13 hospitals and other organizations offering health care training such as the Division of Community Medicine and the Queensland Institute of Technology.

As a standard part of their respective training courses the sub-programme facilitates training for guidance officers, lifeline counsellors, community and Aboriginal health nurses and medical students, in the specialized field of alcohol and drug related problems.

Staff of the Training and Staff Development Sub-Programme have developed resources and guidelines have been developed for alcohol and drug awareness programmes for community groups, industry, parent groups, apprentices and students. A comprehensive curriculum and syllabus series is being prepared after piloting the programme with Main Roads, Q.E.G.B., Bald Hills College, Coorparoo College, Government Garage, Ampol Refineries Ltd.

RESOURCE: INFORMATION SERVICES

The Alcohol and Drug Dependence Services Information Service is in the process of being co-ordinated into an integrated library, public and professional awareness resource.

Requests from community groups for awareness programmes continue to be received and in accordance with health education principles presentations have been given which encourage participants to recognize the full perspective of drug abuse rather than focus solely on the use of illegal drugs by young people. Shortage of staff has made it necessary to concentrate on those programmes where groups were willing to accept some responsibility for an attitude change and future action rather than be passive recipients.

In-service training programmes and seminars have been arranged for police cadets, prison officers, youth leadership trainees and a Japanese group study exchange team. A presentation on request was made to the National Stipendiary Magistrates Conference and some useful publicity resulted from this which focused attention on the teenage drinking problem and the useful resources available within the service.

Information, pamphlets and education material on alcohol and other drugs have been distributed throughout the year. The revised printing of the Directory of Services for Alcohol and Drug Dependent Persons and their families has been widely distributed.

The Intellectual Handicap Services Library was officially separated from the Alcohol and Drug Dependence Services Library and relocated at Challinor Centre, Ipswich, in November 1983. Mrs Esther Bermingham resigned in December 1983 after 7 years as Librarian of the joint Alcohol and Drug Dependence Services/Intellectual Handicap Services Library. Mrs Bermingham continued to work part-time until April 1984. Ms Ranjani Weerawardana was appointed Alcohol and Drug Dependence Services Librarian in June 1984.

The Alcohol and Drug Dependence Services Library continues to offer research and reference service to Alcohol and Drug Dependence Services' staff, as well as a reference service to government departments, community organizations, tertiary students, and members of the public. With the removal of the workload of accessioning, searches, interlibrary loans and so on connected with the Intellectual Handicap Services collection, sufficient emphasis is now being given to the addiction collection and its users.

RESEARCH, PLANNING AND EVALUATION PROGRAMME

In the last year this programme of the Service has been strengthened by the addition (from other areas of the service) of three extra staff. A policy relevant to data collection and utilization, research and evaluation has also been documented.

Major projects have been:—

- The completion of a formative process evaluation of the Wacol Rehabilitation Clinic;
- A study of the Drug Dependence Clinic;
- The production of several papers on mental health statistics collection and the hospital morbidity collection that covered the epidemiology of alcohol related problems in Queensland, comparisons between general hospitals and mental health establishments on alcohol related diagnoses and a study of the drainage areas of base hospitals in Queensland;
- The development of a computerized system to monitor the use of methadone syrup for the treatment of drug dependence State wide.

A review of the Alcohol and Drug Dependence Services' Mental Health Statistics and their implications for policy, service delivery and planning is in progress.

ALCOHOL AND DRUG DEPENDENCE SERVICES
In-patients Statistics for the year ended 30th June, 1984

BIALA

	Male	Female	Total
On books as at 1-7-83	18	2	20
Total admissions during year ..	1 515	268	1 783
Total under care during year ..	1 533	270	1 803
Total discharges during year	1 517	266	1 783
Residents as at 30-6-84	16	4	20
Average number daily resident	21.19		
Average residence in hospital	4.30 days		

WACOL REHABILITATION CLINIC

	Male	Female	Total
On books as at 1-7-83	92	6	98
Total Admissions during the year	710	69	779
Total under care during year ..	802	75	877
Total discharges during year	730	71	801
Residents as at 30-6-84	72	4	76
Average number daily resident ..	82.85 (on books)		
Average residence in hospital	34.57 days		

Division of Youth Welfare and Guidance

Senior Medical Director: A. B. SHEARER, M.B., B.S.(Qld.), F.R.A.N.Z.C.P., M.R.C.P.(London), M.R.C.Psych., D.P.M.(Qld.), F.R.A.C.M.A.

Regional Supervisor (North Queensland): P. TUCKER, M.B., B.S., D.P.M., F.R.A.C.G.P., M.R.C.Psych.(London), M.R.A.N.Z.C.P. (Appointed Deputy Director, Division of Psychiatric Services as from 19-1-84)

Medical Director: JAMES FOLEY, M.B., B.S.(Qld.), F.R.A.N.Z.C.P., D.P.M.(Qld.), Grad.Dip.Bus.Admin.Q.I.T. (Deceased 20-3-84)

Specialists: RAY BAILEY, M.B., B.S.(Qld.), D.P.M.(Qld.)
NIGEL COLLINGS, M.B., B.S.(Qld.), D.P.M.(Qld.)
JANET RHIND, M.B., B.S., D.P.M.

YOUTH, WELFARE AND GUIDANCE SERVICES

The aim of the Division of Youth and Guidance is to establish a state-wide service in Child and Adolescent Psychiatry. The Division provides clinical services in the general area of child, adolescent and family psychiatry, mainly community based. Approximately 10 per cent of children and adolescents have significant emotional or behavioural disturbance likely to benefit from the services offered by the Division. A multidisciplinary team approach is employed and a wide range of diagnostic and therapeutic interventions are in use.

The work of the Division is seriously threatened by an Australia-wide and world-wide shortage of child and adolescent psychiatrists. By arrangement with the Department and the Public Service Board, advertisements have been placed in key journals in the United Kingdom, but so far the response has been disappointing. The Division is mounting a strong campaign to attract young post-graduates in their elective year to take up child psychiatry training in Queensland. At the present time there are two trainees, Dr Janet Rhind and Dr Gary Persley. A third will be joining the Division shortly and a fourth early in January 1985. This puts severe strains on the Division's resources in providing post-graduate training. However, it is strongly felt that the recruitment and training of young graduates from Queensland is, in the long run, a much more sound policy for building up the resources of the Division than relying on interstate or overseas recruitment, even though the latter may be a useful short-term measure.

YOUTH, WELFARE AND GUIDANCE CLINICS

The clinics receive referrals from a wide range of sources, including contacts from the general public. Cases are referred from the medical profession, both specialist and general practice; from a wide range of government departments, including School Health, Maternal and Child Health and the Division of Community Medicine; and from the Education Department, chiefly through their Division of Guidance and Special Education. Private schools refer a significant number of children and adolescents. Families in crisis who contact community-based organizations are often referred to the clinics. There is also considerable co-operation between the division and the Department of Children's Services, an important aspect of this liaison work being in the area of child abuse.

The community clinics work very effectively in liaison and co-ordination with schools and community services, both in the assessment and treatment of young people and their families, and in the promotion of preventive mental health measures. This takes the form of group discussion, speaking to community groups and participation in relevant seminars.

SPECIAL AREAS

Significant progress has been made over the past few years in special areas, outlined below.

Adolescent Psychiatry

The Barrett Adolescent Centre, which is a joint venture between the Division of Psychiatric Services and the Division of Youth Welfare and Guidance, has continued to function for day patients only. Progress with the establishment of nursing positions and negotiations of conditions is such that, following recruitment and training of new staff, the centre should begin to accept in-patients in late 1984. A separate annual report of this centre has been included with the Wolston Park report.

The Adolescent Out-patient Clinic in Rogers Street is continuing to fill an important role in the assessment and treatment of psychiatric disorders in young and mid adolescents. As far as possible the approach is to involve the family in treatment and management of the problem. This approach has proved successful in many cases.

The clinic works on a multidisciplinary team model, with very close liaison between the clinic and schools, other divisions, government departments and appropriate community agencies. The consent of parents and of the young person where relevant is always obtained.

The Court Clinic and Forensic Services

Although the staff has withdrawn from assessment and treatment of residents at Wilson Youth Hospital with the staff being redeployed at the Barrett Adolescent Centre, a key number of staff continue to work in the out-patients section at Wilson producing court reports for the Children's Court at the request of the magistrate. This section also provides reports on request to the Children's Services Department and the Public Defenders' Office. Application has been made through the Department and the Public Service Board for location of this clinic within the inner city area, as close as possible to the new Children's Court building. It is hoped that this transfer will be possible in the latter part of 1984.

Recognition is made of the long and meritorious service of the late Dr James Foley who provided such a valuable contribution to this aspect of the Division's work over many years.

Specialist services to country areas

This very important aspect of the work of the Division is still in the process of development, and has proved extremely popular with the centres visited and with the visiting staff themselves. At the present time, visits are made at approximately three-monthly intervals to Charleville, Roma, Longreach, Mount Isa, Cairns and Rockhampton.

As well as seeing cases in consultation, arranged through the professional staff in the area, and organized chiefly through the hospital, the visiting psychiatrist and psychologist spend much of the time in liaison and discussion with the available resource personnel in the town and surrounding districts. This is designed to help develop their expertise in both identification and interim management of many difficult problems. The Division provides the human resources while the local hospital board meets the cost of travel and accommodation.

Unfortunately, since the resignation of the regional supervisor at Townsville and the medical director at Toowoomba, it has not been possible to maintain the high level of visiting services to surrounding towns and centres in North Queensland and the south west region. Dr Ray Bailey, presently stationed in Brisbane, has requested a transfer to Townsville and this will provide much needed consultant input in the Townsville and North Queensland region.

Extension of the services of the Division based on the Development of New Child Guidance Clinics

Approval has been given for the establishment of new clinics at the Gold Coast and Rockhampton.

The Gold Coast Clinic will be housed in shared accommodation at Miami in association with the Division of Psychiatric Services and the Division of Community Medicine. Negotiations are still occurring regarding the availability of accommodation in Rockhampton. At present this area is served by visits every three months by a psychiatrist and a psychologist.

Co-operation with the Royal Children's Hospital

A number of the Division's staff, based at Rogers Street, perform sessional work at the Royal Children's Hospital, with no charge to the Board.

The Electroencephalography Department

This section is based at Rogers Street and performed 513 EEG's during the past 12 months. It is staffed by members of the nursing section especially trained in EEG procedures. Generally the test is being used much more selectively than in previous years, with consequent reduction in the number of EEG's carried out.

Contributions by Professional Staff Members to Community Education, and Preventive Mental Health

An important aspect of the Division's work is the personal contribution by members of the professional staff in the area of preventive mental health through participation in seminars and conferences, talks to community groups and other varied community educational work.

Growth in the Development of the Multidisciplinary Team Approach

Mention should be made of the success achieved in the Division through the multidisciplinary approach to teamwork employed in the clinics. Although different basic models are used in various clinics, all operate under the chairmanship of the medical officer-in-charge of the clinic, with significant input from a consultant psychiatrist. Although considerable flexibility of role is allowed, the core roles of the various professionals are well defined, thus preserving each staff member's individuality as well as their contribution towards the team function.

TRAINING COMMITMENTS OF THE DIVISION

An active in-service training programme needs to be maintained for all professional staff. This is implemented as far as possible in the clinics themselves, through the case conference led by a consultant psychiatrist. In addition, an active peer review programme of continuing education and review of clinical standards is conducted by regular doctors' meetings, held twice monthly.

A very important aspect of the clinic's commitment to training involves the registrars in the rotational training scheme in psychiatry, of which the Division takes eight in every 12-month period. A registrar is placed at one of the suburban clinics, has personal responsibility for his/her own case load, and receives individual and group supervision, according to the requirements of the college training scheme. Equally important is the Division's role in the training of child psychiatrists for accreditation for the college which has been mentioned previously.

As well as the above, the Division's staff, psychologists, social workers, speech therapists and child guidance therapists, take part in the under-graduate training of speech therapy, social work and psychology students as well as occupational therapy students. A number of very promising under-graduates have been recognized during these periods and have later returned to join the Division's staff.

STATISTICS

The Division participates in the mental health statistics programme of the Health Department. Some important drawbacks to the present system are failure to accommodate the DSM3 system of diagnostic classification and the long delay before the issue of information from the system. This means that statistics are not available from this system for the annual report. However, the number of new cases registered at each centre are available from another source.

The total for the year shows a decrease compared with 1982–83 which can be accounted for as follows:—

- The absence for significant periods of specialist psychiatrists at Townsville and Toowoomba;
- Withdrawal of services to residents in Wilson Youth Hospital;
- The absence for the majority of the period of a full-time consultant psychiatrist at the Adolescent Clinic at Rogers Street;
- The temporary closure of the Enoggera Clinic for building extensions and renovations.

Statistics for the country specialists' visits are included in the figures of the local hospital in the area in the table below.

Institute of Child Guidance—Brisbane	500
Institute of Child Guidance—Townsville	388
Toowoomba Child Guidance Clinic	251
Sir Leslie Wilson Youth Centre	57
Indooroopilly Child Guidance Clinic	193
Ashgrove Child Guidance Clinic	208
Yeronga Child Guidance Clinic	206
Enoggera Child Guidance Clinic	174
Redcliffe Child Guidance Clinic	194
Nundah Child Guidance Clinic	308
Inala Child Guidance Clinic	358
Greenslopes Child Guidance Clinic	219
Woodridge Child Guidance Clinic	225
Ipswich Child Guidance Clinic	203
	3 481

Division of Psychiatric Services

Director of Psychiatric Services: G. S. URQUHART, M.B., B.S., F.R.A.N.Z.C.P., D.P.M. (to 21-12-83) (Seconded 22-12-83) (Reappointed 3-6-84)
J. M. RIDLEY, M.B., M.R.C.S., D.Obst., D.P.M., M.R.C. Psych., F.R.A.N.Z.C.P. (Acting Director 22-12-83 to 19-1-84)
P. J. TUCKER, M.B., B.S.(Qld.), D.P.M.(Qld.), F.R.A.C.G.P., M.R.C. Psych. (London), M.R.A.N.Z.C.P. (Acting Director 20-1-84 to 1-6-84)

Deputy Director of Psychiatric Services: P. MULHOLLAND, M.B., B.S., F.R.A.N.Z.C.P., D.P.M. (Resigned 12-9-83)

Chief Psychologist: R. M. D. BROWN, B.Sc., Ph.D., M.A.P.S.

Senior Social Worker: K. J. BEDWELL, B.S.W.

Executive Officer: K. YARKER, L.H.A.

Administration Officer: G. T. MURRAY

DIRECTOR'S OFFICE

MENTAL HEALTH LEGISLATION

A Bill to amend both the *Mental Health Act* 1974–1978 and the Criminal Code was introduced to the State Parliament on 22nd March, 1983. A wide range of thoughtful responses by individuals and organisations has assisted development of this legislation and it is proposed that a further Bill be introduced in the near future.

Commencing on 9th April, 1984, a team comprising a psychiatrist, social worker, nursing administrator and a patients' friend visited, on alternate weeks, all of the provincial cities and the major country towns in the State, to discuss with health professionals, relevant non-government organizations, police, court officials and other interested parties, the provisions of the current *Mental Health Act* and the likely amendments, with particular emphasis on the sections dealing with compulsory admission of persons to hospital.

Proposed amendments were generally favourably received.

STAFFING

Dr P. Mulholland resigned from the position of Deputy Director of Psychiatric Services on 12th September, 1983. Dr P. J. Tucker was appointed Deputy Director on 19th January, 1984.

WOLSTON PARK HOSPITAL

Medical Superintendent: J. F. WOOD, M.B., Ch.B., D.P.M., F.R.A.N.Z.C.P., M.R.C. Psych.

Manager: K. J. MURPHY

Principal Nursing Officer: R. GRAY

Senior Paramedical Officer: A. CAMPBELL

OVERVIEW

Wolston Park Hospital Complex comprises the Barrett Psychiatry Centre, the Barrett Adolescent Centre, Wolston Park Hospital and Wacol Repatriation Pavilion.

Barrett Psychiatry Centre provides an acute in-patient and out-patient regional psychiatric service. The Barrett Adolescent Centre, planned to deliver a comprehensive in-patient, out-patient and day patient service for adolescents, is providing an out-patient and day patient service only at its present stage of development. Wolston Park Hospital, the major component of the complex is a medium- and long-term treatment and rehabilitation facility for the Queensland population resident from the Tropic of Capricorn to the southern border, excluding the area serviced by Baillie Henderson Hospital. For effective patient treatment and management, Wolston Park Hospital is subdivided into seven specialist clinical units. One of these units, the Wacol Repatriation Pavilion, is a special service for war veterans and is financed by the Commonwealth Department of Veterans' Affairs.

Each section and unit has an officer in charge and a multidisciplinary consultative committee. Individual treatment programmes are designed and implemented by a multidisciplinary team comprised of psychiatrist, psychiatric registrars, resident medical officers, nursing staff, social workers, social work associates, psychologists and occupational therapists, with physiotherapy and speech therapy input as necessary.

CLINICAL THERAPEUTIC ACTIVITIES

Barrett Psychiatry Centre

The centre treats acute psychiatric in-patients and out-patients from the West Moreton region, and the Brisbane western suburbs to the Gold Coast. The in-patient service is provided in three wards, two of 32 beds and one of 16 beds. While all three wards function as open wards, one of the larger wards may be locked as necessary.

The centre has four multidisciplinary clinical teams effecting the in-patient and out-patient service, and plans to provide a day patient service. During the year the Department of Psychiatry, University of Queensland extended its under-graduate teaching to Barrett Psychiatry Centre.

Barrett Adolescent Centre

The Barrett Adolescent Centre has continued functioning as a day-patient unit for adolescents from 13 to 17 years of age. The planned extension of the service to in-patients should occur later in 1984 as staff become available.

The diagnostic categories of the adolescent patients cover a wide range including depression and attention deficit disorder as well as behavioural and anxiety disorders. The limitations of a day-patient service precludes the admission of the more severe problems of suicidally depressed or acutely schizophrenic adolescents. Almost all of the patients have a significant degree of social, emotional and academic developmental delay, and relatively few have been functioning satisfactorily in secondary school before their admission. Over the 12 month period the number of patients attending has ranged from six to 13. It has been possible to increase the numbers because of increasing support from the Education Department with provision of increased teaching time.

The patients are admitted into the unit after a full assessment, involving medical, psychiatric and psychological evaluations, as well as family interviews. The day programme, which involves education segments, group and individual therapy sessions plus various physical and recreational activities in a therapeutic situation, is maintained on a multidisciplinary team basis utilizing staff from the range of disciplines of teaching, psychiatry and medicine, psychiatric nursing, psychology and child guidance therapy.

Referrals to the unit have been from many sources such as acute hospital units, psychiatrists and general practitioners; but the majority have been via other Division of Youth Welfare and Guidance facilities, the Guidance and Special Education section of the Education Department, or the Department of Children's Services. The range of referral agencies, the liaison required for thorough assessment of the patients and provision of satisfactory support systems and follow-up upon discharge from the unit, have necessitated the development of close and generally effective interactions at a "client-care" level with these other facilities.

Psychiatric Treatment Unit

Early in the year the Psychiatric Treatment Unit was subdivided into two more specialised sub-units. The Psychiatric Treatment Unit itself then comprised three of its original wards—McDonnell House A, McDonnell House B and Psychiatric Treatment Unit Ward "E" plus a ward (Anderson House) which temporarily opened for a six-month period, to allow for readjustments being made in metropolitan acute in-patient services. Consequently, for the major part of the year, the unit's bed state has ranged from 124 beds to 100 beds. The unit provides an active therapeutic and rehabilitative service for patients referred from regional and acute psychiatric facilities for longer term treatment (six months and over).

The Department of Psychiatry, University of Queensland, has a medical under-graduate teaching and clinical unit and post-graduate research centre within the Psychiatric Treatment Unit.

Intensive Treatment Unit

The Intensive Treatment Unit was created in August 1983 for the special treatment of patients who for reasons of severe mental illness are not manageable in open wards. In addition to receiving patients from other wards of the Wolston Park Hospital Complex, the unit also receives patients from all metropolitan psychiatric units and under special circumstances patients from throughout the State. The unit also serves the very specialized function of "female security patients' hospital" for Queensland.

The unit is accommodated in Osler House and Pearce House providing a total of 45 in-patient beds. While both wards are secure, the majority of patients enjoy therapies and training activities outside of the ward in the care of a multidisciplinary staff team.

Psychiatric Care Unit

The Psychiatric Care Unit has in six wards, Noble House B and D, Lewis Houses A, B, D and Kelsey House, a total of 191 in-patient beds for patients with protracted psychiatric illness, requiring on-going in-patient psychiatric care. In addition to individual psychiatric treatments, the unit delivers group, social and work therapies and has had considerable success in the physical rehabilitation of patients with significant neurological deficits. The unit has a range of open and closed accommodation.

Psychogeriatric Unit

The Psychogeriatric Unit consists of three wards and a day activities centre which provide accommodation and treatment facilities for 192 in-patients. Gladstone and Jenner House each have accommodation for 40 patients and Ellerton House has accommodation for 112 patients.

Patients in the Psychogeriatric Unit are generally over 60 years of age and have an organic psychosis or an age-related illness. Patients are referred from other hospitals and psychiatric units and are assessed by a multidisciplinary team prior to admission. The day activities centre, located in Fleming House and opened in the previous year, has proved very beneficial to the in-patients of the unit, with its wide range of appropriate therapies and activities for the patients in an off-ward social setting.

Medical Treatment and Rehabilitation Unit

The Medical Treatment and Rehabilitation Unit, housed in a modern air-conditioned building, has both in-patient and out-patient facilities for patients resident in the Wolston Park Hospital Complex. A multidisciplinary team of health professionals delivers treatment for acutely physically ill patients in a 40 bed ward.

A general practice out-patient service for all residents is extended from this unit. This complements the medical treatment provided at ward level and ensures good on-going physical care. Both the general practice service and the in-patient service are supported by a range of visiting specialists in general medicine, surgery, gynaecology, neurology, radiology, optometry and chiropody. The unit also provides investigative services (radiological, pathological and neurophysiological—E.E.G.).

A dental service based in the Medical Treatment and Rehabilitation Unit delivers dental care for patients of the hospital and other local divisional hospitals and institutions.

The unit prepares and issues all sterile and other requisites for the complex from its central sterilising service.

Wacol Repatriation Pavilion

The Wacol Repatriation Pavilion, comprised of three open wards, has 90 in-patient beds for war veterans with chronic psychiatric illness. Close liaison is maintained with Greenslopes Repatriation Hospital and with the Department of Veterans' Affairs. The Department of Veterans' Affairs has provided the pavilion with an electric vehicle for the transportation of patients to therapy and service areas within the complex.

Intellectual Handicap Unit

The Intellectual Handicap Unit has undertaken the care and rehabilitation of the intellectually handicapped patients of Wolston Park Hospital.

Continued implementation of a programme for the transfer of these patients to the responsibility of Intellectual Handicap Services has resulted in a reduction in patient accommodation during this year from 76 beds to a current 20 beds, and the closure of two wards within Dawson House. It is anticipated that the remaining patients will be transferred to the care of the Intellectual Handicap Services in the near future.

The emphasis throughout the year has been on a modular programme with assistant nursing staff being assigned on a regular basis to the modules of approximately eight patients each. As part of the modular programme the multidisciplinary team provides more specialized inputs including music, craft, recreational and prevocational activities.

Survey of Chronic Patients

A major survey by a multidisciplinary team, representing both the Division of Psychiatric Services and Wolston Park Hospital, was conducted on the patients of the Psychiatric Treatment Unit, Intensive Treatment Unit and the Psychiatric Care Unit. The survey was initiated early in 1983 and concluded this year. The purpose of the survey was to establish a multifactorial data base to aid in intermediate and long-range planning for the care, treatment and management of the chronic mentally ill. The data is still being collated and analyzed.

Patients Remedial and Further Educational Programme

This programme commenced in October 1983 and presents courses designed by the Department of Education Secondary Correspondence School in basic literacy and various secondary school subjects such as English, Maths, Science and Business Principles. Currently students receive basic literacy instructions given by a special teacher. Other students are completing secondary subjects. The school has a multidisciplinary input and provides services across various units of the hospital. It is hoped in the future to expand the school to provide basic numeracy and consumer education courses. Efforts are being made to integrate patient remedial and education programmes into community-based adult literacy services so that skills acquired by patients are maintained and built upon.

VOLUNTARY ORGANIZATIONS

The work of hospital staff is supported by the activities of a number of voluntary organizations and self-help groups who are involved in recreational pursuits of patients as well as a variety of social outings and functions including concerts. Valuable assistance is given most willingly to the planning and staging of the hospital's annual fete.

STAFFING

Wolston Park Hospital has endeavoured throughout the year to maintain its full complement of staff, in accordance with its approved establishment. Some difficulties have been experienced in recruiting psychiatrists and paramedical staff. In the course of the year the following senior appointments were made: Dr J. F. Wood, Medical Superintendent; Dr J. R. Roper, Deputy Medical Superintendent and Mr K. J. Murphy, Manager.

In February 1984, Mr E. E. J. Pearce, an Official Visitor to the Hospital since 1963, retired. The contribution made by Mr Pearce to the well-being of the patients over this period of time is acknowledged. Mr R. T. Peterson has been appointed in his stead. With the continuing staged implementation of the plan to place the intellectually handicapped patients from the hospital into the care of the Intellectual Handicapped Services Branch, there has been a significant reduction in the number of supernumerary nursing staff employed within the complex. Also contributing to this reduction has been the re-designation of nursing staff positions to the Barrett Adolescent Centre. A Librarian and Assistant Librarian were appointed to newly created positions to update and service the already extensive and comprehensive collection of psychiatric texts available in the hospital library.

TRAINING

On 27th February, 1984, the Director of Psychiatric Services, Dr G. S. Urquhart, formally opened the new Professional Development Centre. This centre was created by the hospital artisan staff in the upper storey of Noble House. These new facilities have centralized and facilitated staff training for the hospital complex. The Professional Development Centre has three classrooms, an auditorium (seating 80 people), a practical training area, an audio-visual studio, a study area and a staff/student lounge. The centre provides particularly for nurse training and teaching, and also office suites for the nurse educators.

The Nurse Training School offers training courses for basic psychiatric nursing (3 years), a shortened course (18 months) for general trained nurses to obtain psychiatric nurse training, administration courses, basic nursing for nursing assistants, hospital officers courses, advanced skills in psychiatric nursing and other refresher lecture courses as needs dictate.

The Professional Development Centre runs a week-end training course for registrars training in psychiatry, with lecturers and students from Queensland and other States. This complements the complex's programme of training for registrars and medical staff preparing for examination by the Royal Australian and New Zealand College of Psychiatrists. Resident medical officers receive in-service training and medical under-graduate teaching is provided both within the main hospital (in the Neuropsychiatric Unit associated with the Department of Psychiatry, University of Queensland) and at Barrett Psychiatry Centre.

Wolston Park Hospital is used extensively for clinical placement by the paramedical professions and inservice is undertaken within the complex for all clinical groups.

Intake orientation programmes are provided for all newly appointed staff.

PHYSICAL ENVIRONMENT

During the year further progress was made in the installation of emergency power for the clinical units of the hospital. Most wards will have this facility with the completion of the current phase of the project. Consultations have been held with the Department of Works for the provision of sealed parking areas at key sites throughout the hospital complex.

With the completion of the new Professional Development Centre and the transfer of the Nurses Training School to that centre, the opportunity has been taken to provide more appropriate accommodation and facilities for the patients' correspondence school, for clinical staff office accommodation and for conference room and work areas.

Wolston Park Hospital took the opportunity of participating in the Commonwealth Employment Programme to provide improved amenities throughout the hospital grounds. In particular a pleasant new open-air style terraced extension to the main hospital canteen has been provided. In addition, a new extensive recreation area, to be known as Nyunda Park, has been prepared, landscaped and developed with shelters, barbecues and appropriate recreational and sporting facilities, in the hospital grounds lying between the hospital complex, Wacol Rehabilitation Clinic and Basil Stafford Training Centre. A third project under this scheme has been the improvement and beautification of the Wolston Park Hospital Golf Course. This project was facilitated by a financial donation from the Wolston Park Golf Club.

The staged connection of the various sewerage and septic systems within the complex to the Brisbane City Council's system has been completed, relieving the hospital of the responsibility for the treatment and disposal of effluent.

MANAGERIAL AND ADMINISTRATION

Computerization

The hospital entered the computer age in 1984 with the delivery of a computer in February. Initially the computer will process trust accounts, pensions and maintenance charges and some admission and discharge data. The installation has the capacity for future enhancement. This project has been a co-operative effort by the hospital and the Department's ADP staff, and the latter's technical advice and assistance has been greatly appreciated. The commencement of the trust accounts programme on the computer is scheduled for 2nd July, 1984.

Records

A project has been commenced with the assistance of the medical records staff of the Department to review the current psychiatric records of the hospital with a view to developing a comprehensive specialist psychiatric record system geared for both acute and long-term patient contact.

Industrial

Throughout the year nursing union activity continued, aimed at increased staff numbers generally and variations to the night staffing arrangements. Despite work bans being imposed, the hospital was able to effectively continue its main treatment programmes for patients; but external resocialization activities were impeded by the bans.

BAILLIE HENDERSON HOSPITAL

Medical Superintendent: J. M. RIDLEY, M.R.C.S., L.R.C.P., M.B., B.S., D.P.M., D.R.C.O.G., M.R.C.Psych., F.R.A.N.Z.C.P.

Acting Medical Superintendent: E. TAN, M.B., B.S., D.P.M., R.C.P., R.C.S., M.R.C.Psych., M.R.A.N.Z.P. (13-9-83 to 25-11-83)

Acting Medical Superintendent: G. FINNEMORE, M.B., Ch.B., F.R.A.N.Z.C.P., D.Obst., R.C.O.G. (from 28-11-83 to 31-2-84)

Manager: A. GIBSON

Principal Nurse (Acting): D. JANETZKI

Senior Paramedical Officer: M. RYAN, B.A.(Hons)Qld., Ph.D.(Qld.)

OVERVIEW OF HOSPITAL/SERVICE ACTIVITIES

Baillie Henderson Hospital can accommodate 520 patients at present. There are 17 wards, 15 of which house 40 patients and the remainder less than this number. One ward is not now used for residential accommodation but is used instead as a day centre for discharged patients of this hospital.

The population of the hospital is gradually becoming more dependent as the more able patients have been able to be discharged into the community. As a result, about half the patients in the hospital are able to use the central cafeteria whilst the others have their meals in their own ward.

The provision of psychiatric services functions very efficiently within the constraints of labour and facilities, and this is due in part to an integrated service being offered to Toowoomba and South West Queensland by the one group of staff. The executive of this hospital strongly believe that community service should not be separate from hospital service. They have been working to show the community that the in-patient facility is only part of the total psychiatric service offered by Baillie Henderson Hospital. There are constant attempts to improve liaison with various other community services such as Community Medicine, Youth Welfare and Guidance, Lifeline and Toowoomba General Hospital.

The Hospital Auxiliary continues to work hard for the hospital.

The Community Liaison Unit developed within the hospital runs an orientation course for volunteers twice a year. Volunteers are recruited specifically for jobs requested by the staff of the various units. In addition this unit has played a large part in forging links with the community with various activities, including talking to service groups, visits by school children, organizing Mental Health Week, the annual fete and numerous other activities. The Community Liaison Unit has been of major importance in helping to overcome to some extent the negative attitudes in the community towards psychiatric illness. Some nursing staff have been redeployed to cater for the extension of services into the community as well as the more intensive work being done within the hospital.

CLINICAL/THERAPEUTIC ACTIVITIES

Acute Admissions Units (Gowrie Hall and Toowoomba General Hospital)

The Acute Admissions Unit at Baillie Henderson Hospital has looked after all of the more disturbed admissions plus a number of others who may need some specialized care. Now that the Day Hospital is about to be opened in Toowoomba it is likely that a number of patients previously treated in the acute units will be able to be managed as day patients. In view of this, some decrease in the number of in-patients in these two units might be expected.

Rehabilitation Unit

The Rehabilitation Unit's objective is to provide an in-hospital rehabilitation service to short- and medium-stay patients. A number of patients have been successfully placed in the community over the past few years, resulting in an increase in the proportion of longer-stay patients who are more difficult to rehabilitate to community living. A re-assessment of patients is taking place to ascertain the number who are suitable for an active rehabilitation programme with a focus on community placement.

Wishaw Day Centre

The Wishaw Day Centre, in the grounds of Baillie Henderson Hospital, provides a support service for ex-psychiatric patients now living in the community. In addition, these persons are followed up by liaison nurses attached to Baillie Henderson Hospital and also the out-patient clinics at Toowoomba General Hospital.

Alcohol Unit

The Alcohol Unit at Bedford Street was transferred to Baillie Henderson Hospital from the Toowoomba General Hospital after difficulties in its use by the General Hospital. Although a number of alcoholic patients have been referred, many have had significant brain damage and have not been able to be rehabilitated. A further ward for alcoholics in Baillie Henderson Hospital, the alcoholic unit, houses 27 male alcoholics with significant dementia.

Forensic Service

This service liaises closely with the probation service in Toowoomba. The service sees patients for pre-sentence reports, and for reports requested by the courts and other sources. It mostly operates as an out-patient service, although occasionally the patient is admitted to Gowrie Hall for in-patient assessment.

Mental Health for the Elderly Unit

This unit consists of a day hospital and assessment centre in the city and an in-patient assessment unit at Baillie Henderson Hospital plus two other longer-stay wards. The assessment service has resulted in the prevention of many inappropriate placements of the elderly in the psychiatric hospital. Attempts are made to have a contact with the referring agency, be it relatives or nursing home, so that after assessment patients return back to the community unless remaining for treatment of their functional illness. In spite of this, a gradual build-up of patients who are "abandoned" and waiting for nursing home placement is occurring. Patients with significant behaviour disorders are placed in the longer-stay wards, one of which houses the more active and the other the more physically dependent elderly patients. Approval is to be submitted for a new psychogeriatric unit in the hospital consisting of four units: an assessment unit, a nursing home unit, a unit for active elderly with behaviour problems, and a unit for dependent elderly. Even with strict monitoring, it is inevitable that some patients suitable for nursing home placement will find themselves waiting in a psychiatric hospital. This also occurs in general hospitals.

Young Disabled Unit

This unit caters for young people who have had head injury resulting in physical disability and behavioural problems, which have prevented their successful application to physical rehabilitation. Patients are accepted for up to two years and attempts are made to extinguish their inappropriate behaviour by using behaviour therapy methods including token economy whilst continuing their physical rehabilitation. In addition, a unit for longer-term young head injury patients is adjacent and provides stimulation for patients who would otherwise be placed in psychiatric wards, psychiatric hospitals or with the elderly in nursing homes.

Intellectual Handicapped Unit

This service of the hospital now has 160 patients. Ongoing liaison occurs with the local Intellectually Handicapped Service Superintendent. It is hoped that all patients in the unit will be placed within the community in the care of Intellectually Handicapped Services. Alternatively, some ward areas within the hospital may be separated off for Intellectually Handicapped Services.

South West Queensland and Darling Downs Regional Psychiatric Service

The Rural Service travels to western and south-western towns to provide an assessment and treatment service, as well as support for care givers and education to various professional groups. The service which has been welcomed and well received at present visits Warwick, Stanthorpe, Dalby, Roma, Goondiwindi and Charleville.

North Queensland Service

Owing to the lack of psychiatric input in North Queensland, the staff at Baillie Henderson Hospital have this year taken on additional responsibility to provide psychiatric input to Mosman Hall Hospital, Charters Towers, by visiting approximately every six weeks and also by offering a service to Mount Isa.

Community Mental Health Centre

The Community Mental Health Centre in the Philharmonic Hall, Toowoomba, was opened by the Minister for Health on 7th June, 1984. Service is provided by a multidisciplinary health team consisting of a psychiatrist, medical officer, clinical psychologist, social worker, occupational therapist, psychiatric nurses and student nurses.

STAFFING

Medical

There are now nine medical officers of whom six are in training to become members of the Royal Australian and New Zealand College of Psychiatrists. The input of these young trainees has been important and helpful in the development of the hospital's services. The services of the Deputy Medical Superintendent were lost with his resignation in November, 1983, and since that time the hospital has functioned with the services of the Medical Superintendent, two full-time psychiatrists, and one private psychiatrist working five sessions per week, as the two other full-time psychiatrists also resigned to go into private practice.

Other Graduate Officers

As at 30th June, 1984, the following graduate officers contributed to the hospital's services:— a senior paramedical officer; five full-time and one part-time psychologist; a senior occupational therapist and two occupational therapists; a senior social worker and four social workers; a speech therapist; a librarian; four recreation officers; a school teacher and teacher assistant; a pharmacist in charge, one pharmacist and an assistant pharmacist.

OTHER MATTERS

Work on the indoor recreation block with store and dispensary was commenced during the 1983–84 financial year, and it is anticipated that this complex will be completed in the 1984–85 financial year.

The canteen has been successfully leased out on private tender.

Pest control which was previously handled by a general hand is now carried out by qualified companies under contract, resulting in a much improved service.

Safety is continually kept under review with recent assistance from the Division of Occupational Safety of the Department of Employment and Industrial Affairs. Close co-operation is maintained with the Toowoomba City Fire Brigade Services.

MOSMAN HALL

Mosman Hall is a 194-bed hospital consisting of five residential units and an occupational therapy unit. In conjunction with psychiatric units in hospitals in Townsville, Mackay, Cairns and Mount Isa, it provides a service to the psychiatrically ill and the intellectually handicapped of North Queensland. In addition to this, over the past three years, a unit has been developed to cater for the increasing number of people suffering from alcoholism.

Macrossan House caters for intellectually handicapped patients. Education programmes are conducted there with an emphasis on new experiences and community living skills. People are now leaving the hospital on holiday camps and outings which are held in conjunction with the National Recreational Council.

The staff at Mosman Hall consists of a hospital administrator, seven nurse administrators, 46 registered nurses, 35 assistants in nursing, two psychologists, two social workers, four recreational officers, five clerical staff and 22 ancillary staff.

At the moment, Mosman Hall receives the services of a psychiatric registrar for two weeks in every six weeks and a psychiatrist from Baillie Henderson Hospital for one week in every six weeks. A medical officer from the Charters Towers Hospital visits Mosman Hall for three days a week and is always on call if needed.

Because Mosman Hall is far distant from the major growth areas from which most residents come, the rehabilitation of patients presents a challenge. Support for rehabilitation is given by outlets such as the Sussex Street and Stanley Street Hostels and Mancare in Townsville. A concerted effort by staff to find more community accommodation such as suitable boarding and share houses is meeting with good results.

The Hospital Auxiliary, using funds derived from the canteen, has purchased valuable assets for the hospital in the form of two buses, audio-visual, recreational and other equipment. The Hospital Auxiliary is now embarking on a project to raise funds for a swimming pool for the hospital.

The Occupational Therapy Unit not only provides therapy for the residents, it also involves the community directly with Mosman Hall by conducting open days on which the local public come to the hospital to purchase goods.

Registered nurses are still being sent to Baillie Henderson Hospital for in-service training. With the assistance of a nurse educator from Baillie Henderson Hospital, education programmes for assistant nurses were conducted in 1982 and 1983. A registered nurse completed a Diploma in Nursing Administration course last year. Staff are given the opportunity of attending various relevant workshops and seminars held in the area.

PSYCHIATRY CLINIC, 30 MARY STREET

Psychiatrist-in-Charge: P. J. EDWARDS, M.B., B.S., F.R.A.N.Z.C.P., D.P.M.

The purpose of the Psychiatry Clinic essentially remains unchanged. All out-patient forensic psychiatry in the public sector is done by staff at this clinic. In addition, the clinic provides an assessment and treatment service for the complete range of adult psychiatric disorders. The latter component of the work of the clinic includes both an early intervention function as well as providing an after-care service for patients discharged from psychiatric in-patient units. Over the last 10 years there has been both a relative and an absolute increase in the forensic psychiatry component of the clinic's work. In addition, the volume of after-care patients from Wolston Park Hospital has dropped appreciably over recent years, but this has been off-set by an increase in the number of short-term cases referred from a wide variety of sources in the community.

Clinic staff liaise with many voluntary and governmental agencies in the community.

A crisis intervention service operated by non-medical staff, but supported if required by medical staff, functions during normal office hours throughout the working week.

STONES CORNER PSYCHIATRY CLINIC

Acting Psychiatrist-in-Charge: P. G. MITCHELL, M.B., B.S., D.P.M., M.R.A.N.Z.C.P.

OVERVIEW

The Stones Corner Psychiatric Clinic is situated on the first floor of Chadstone House, 416 Logan Road.

People are seen at the clinic on an out-patient basis. It provides a crisis service and a day activity centre service as well as extra mural services such as psychiatric consultative services to community health services centres and Queen Elizabeth II Hospital, support to other individuals and groups in their understanding of mental illness and the implementation of the *Mental Health Act*. Support is also given to self-help groups such as the Association of the Relatives and Friends of the Mentally Ill (ARAFMI).

Medical Staff

The current medical staffing is an acting psychiatrist-in-charge, psychiatrist, two medical officers—one of whom is awaiting registration as a psychiatrist, having recently obtained a D.P.M., and a part-time psychiatrist providing three sessions per week. The psychiatrist-in-charge has administrative and clinical responsibility for the clinic.

It is still considered essential that all patients are seen by a psychiatrist or a psychiatric medical officer in the early stages of patient contact with the clinic in order that this broadly based medical psychiatric expertise can be used for the benefit of patient and staff alike. The psychiatric role is seen as assessment, formulation of treatment protocols and treatment of patients on an individual or group basis using skills in dynamic psychotherapy, behavioural modification, and psychopharmacology. It also involves providing readily available support to the crisis officer in the assessment and management of urgent psychiatric problems presenting as emergencies at the clinic.

The same skills are utilized in the provision of a psychiatric consultative service to Community Home Care Services and the Queen Elizabeth II Hospital.

Social Workers

Currently one social worker is employed. The social worker co-operates with other staff in close liaison regarding patient management. The role of the social worker is to provide assessment skills to new patients, provide counselling appropriate to his expertise, emphasize the social and welfare aspects relevant to each patient's assessment and management, provide a crisis intervention service and a domiciliary service.

Psychologists

Three full-time psychologists are employed at the clinic. The psychologists are members of a multi-disciplinary team and participate in the decision-making processes which form the basis of managing client cases. The psychologists provide crisis care and counselling, treatment programmes dealing with a range of psychological problems including anxiety and phobic states, depressive compulsive disorders, depression, sexual dysfunction, social and relationship deficits and psychological assessment including intellectual, neuropsychological and personality assessment.

Occupational Therapists

The two positions of occupational therapist are filled. The role of the occupational therapist remains the organization and implementation of day centre programmes and close liaison with other members of staff to provide psychiatric, psychological and social work input for better patient management.

Welfare Officer

Currently one welfare officer is actively employed. A second has leave to complete a degree course at the University. The role of the welfare officer is the provision of general nursing skills, emergency dispensing of pharmaceuticals, giving injections (e.g. modecate), providing a crisis intervention service and assessment of new patients, provision of supportive counselling, providing domiciliary visits in emergency and liaising with other members of staff.

Pharmacist

A pharmacist now visits the clinic daily to dispense prescribed drugs and this is a useful service.

Student Placement

Students from the disciplines of psychology, social work and occupational therapy have continued to have clinical attachments to the clinic for practical experience under skilled supervision.

NOBBY BEACH PSYCHIATRY CLINIC

Regional Psychiatrist: D. STRATON, M.B., Ch.B., M.R.A.N.Z.C.P., D.P.M.

OVERVIEW

The year has seen a number of important developments on the Gold Coast. The staff of the psychiatry service has increased from two-and-a-half to 13, with a further seven positions due to be filled. The provision of new premises is under consideration.

The new staff have formed a cohesive team and a number of training and community development projects are in operation. Good liaison has been established with the Gold Coast Hospital and the Division of Community Medicine.

CLINICAL ACTIVITIES

Clinical activities include:—

- Outpatient assessment and treatment of patients by a psychiatrist, social workers and welfare officers.
- Family therapy for selected families with a clinical training seminar for therapists.
- Group therapy is used where feasible.
  Currently there are two women's groups and a social skills group for young patients with long term psychiatric problems. There is a weekly clinical training seminar for group therapists.
- A limited crisis service is provided 9 a.m. to 5 p.m., Monday to Friday by a roster of therapists.
- There is regular liaison with Ward 15 at the Gold Coast Hospital and visits to offices of the Division of Community Medicine.
- Some surveys have been carried out to compile an index of agencies and welfare groups on the Gold Coast.

STAFFING

Medical Staff

The regional psychiatrist is employed full time. There are two part-time staff—a psychiatrist and a medical officer.

Other Disciplines

Three social workers and three social work associates are employed. Three welfare officers are also employed on the staff of the clinic.

Clerical Staff

One clerk and two stenographers are employed at the clinic.

INTELLECTUAL HANDICAP SERVICES BRANCH

Director: R. N. SHEPHERD, B.A., Dip.Psych., M.A.P.S.

Deputy Director: J. M. C. WRIGHT, B.A.(Hons.), M.A. (to 27th September, 1983)
R. JOACHIM, B.A., Dip.Psych., Grad.Dip.Mgmt. (from 7th June, 1984)

Human Resources Development Officer: J. C. STOLL, B.A., M.Soc.Wk.

Senior Community Liaison Officer: D. E. WALLACE, B.Occ.Thy., Dip.Soc.Pln. (to 6th June, 1984)
R. WILKES BRIGHT, B.A.(Hons.) (from 7th June, 1984)
S. ENKELMANN, B.A.(Hons) (to 11th November, 1983)

Senior Staff Development Officer: S. EARNSHAW, B.A.(Hons.), Ph.D. (from 25th June, 1984)

Administration Officer: R. H. YOUNG

DIRECTOR'S OFFICE

During the past year, service developments which were reported or foreshadowed in previous Annual Reports have been consolidated and extended.

Wolston Park Relocation Project

The project to relocate intellectually handicapped persons from Wolston Park Hospital to the care of the branch was successfully completed by July, 1984, having involved a total of 141 clients over a three-year period.

Alternative Living Services

In consequence of the relocation project, the alternative living services in Brisbane North, Brisbane South and Ipswich Regions have been extended and their administrative structures confirmed with the creation of additional senior positions. Alternative living services have also been established in Maryborough and Rockhampton.

Residential Services

An increase in both long-term and respite residential services has been achieved by the opening of the second stage of the Rockhampton Villa, on 9th March, 1984, with accommodation for 12 clients, and the assumption by the Brisbane North Services of responsibility for administration of the former Maternal and Child Health Home at Sandgate. The Sandgate centre has continued to provide the previous respite care service to children who are not intellectually handicapped. The application of the residential care model to this group of clients has been most effective.

The Community Villas in Maryborough, Toowoomba and Rockhampton have celebrated five years of successful functioning.

All residential services have been stressed by the need to accommodate increasing numbers of long-term and short-term clients of all ages. Branch officers have participated in planning activities with other services and in joint "vacation day-relief programmes" with other government and voluntary organizations in an attempt to alleviate family stress.

Townsville Services

The services established in 1982 have experienced their first full year of operation. The need for further expansion of resources in North Queensland has been expressed by client families.

Staff Development

The on-going importance of staff development within the branch has been recognized by the creation of new positions. The review and updating of the Certificate Course in Residential Care, commenced in 1977, has been completed.

There has needed to be an emphasis also on post-graduate training of professional and administrative officers. An example has been a community skills workshop conducted in June, 1984, to assist officers to cope more effectively with the interface of branch services and the community.

Client Records

The implementation of the Individualized Training and Environmental Plans (I.T.E.P.) record-keeping system throughout the branch is now well under way. This is involving a major re-organization of existing client records but will finally enable effective planning, conduct and review of client programmes and ready portability of information.

Intellectually Handicapped Citizens Bill

Officers of the branch participated in the detailed analysis of submissions from interested individuals and organizations on the Intellectually Handicapped Citizens Bill tabled by the Minister for Health in March, 1983. Public meetings were held throughout the State to inform persons about the philosophy and content of this innovative legislation. Consultative meetings have also been held with representatives of various agencies during the process of further drafting of the legislation.

Interstate Directors' Meeting

In June, 1984, Queensland was privileged to act as host State for the inaugural interstate meeting of directors of services for intellectually handicapped persons, as approved by the 1983 Health Ministers Conference.

BRISBANE SERVICES

(Covering the Brisbane Metropolitan Area, Sunshine Coast and Gold Coast)

Superintendent: G. ROSS, M.Soc.Wk. (to 6th June, 1984)
D. E. WALLACE, B.Occ.Thy., Dip.Soc.Pln. (from 7th June, 1984)

This year has seen a marked increase in residential provision in a service which previously focused on community-based resource and assessment services. This has entailed some reconsideration of priorities for staff deployment and clients programmes since both the burgeoning alternative living service and the newly acquired Sandgate Centre have required resource staff support from within the existing establishment.

Because of the very wide geographical region, including planning for locally based services in the Sunshine Coast, it has been proposed to hive off services to the Gold Coast and the south metropolitan area, to the Brisbane South Region, also incorporating Basil Stafford Centre and the Brisbane South Alternative Living Service.

Resource and Assessment Services

Some 700 clients living in family situations are served. The aim is to provide a range of training programmes and facilities, social and leisure activities, opportunities for families to participate actively in programming and decision making, support services to families including daycare, holidays and emergency relief and inter-family support, and a variety of training programmes and experiences for family members. Emphasis is placed on enabling clients to use community educational, recreational and social facilities. A similar array of services is needed to complement and support the residential services provided directly by the branch as well as the increasing number of voluntary and private sector facilities housing branch clients. Domiciliary services are still the major provision for young children while adults may be served in either their home or centre-based programmes.

Staff categories include social workers, psychologists, speech, occupational and physio-therapists, residential programme officers, special teachers and community health aides, not all of whom are represented on every team. The consultant services of a paediatrician from Maternal and Child Health Services have been appreciated.

Programmes

The Adult Centre at Taringa offers a structured training programme concentrating on social skills and pre-vocational skills, three days a week, for a clientele of 12. A group programme for profoundly/severely handicapped adults operates four days a week. A recreation programme operates one day a week. It also houses an equipment construction and maintenance section. It is used for other once-up programmes such as drama group and on weekends for recreational groups.

Resource and assessment staff refer children to the structured intervention playgroup programme that operates within premises at Greenslopes four days a week. Children who attend are severely/profoundly handicapped usually between the ages 2½ to 7 years. The programme is structured to give sensori-motor experiences and opportunities for cognitive development and social interaction. Receptive and expressive language is encouraged within the aims of the programme. Clientele includes eight severely/profoundly handicapped children per day, most attending one day per week. Seven other part-time venues are used throughout the wide area covered by the Brisbane Services, to reduce family stress associated with travelling.

Special Services

Both family education and audiological services provided through the Brisbane North Services have a State-wide clientele.

Residentials

Sandgate Centre is now fully operational and provides 18 full-time beds and six relief beds for intellectually handicapped children and adolescents, and 24 beds for non-handicapped children on a family relief basis. Reports from consumers have been very favourable. The centre has established an excellent liaison with educational facilities in the area, in particular the Woody Point Special School.

Alternative Living Service

This service has expanded considerably in the past year mainly providing accommodation for young adults who are former residents of the Basil Stafford Centre. The alternative living service has now reached its planned full complement of 12 houses. A significant need for future planning is the development of adult day training centres.

Staff Development

With the establishment of the Sandgate Centre, a Staff Development Officer has been appointed in respect of the Certificate Course in Residential Care to be provided for new staff. This centre has proved an appropriate central venue for training of residential care staff from the Brisbane North Alternative Living Service.

Satellite Offices

The Gold Coast office has now moved into attractive and functional accommodation at Ashmore, where it provides direct services by three staff and co-ordinates visits of professional staff from Brisbane. It is anticipated that a similar service will be provided to the Sunshine Coast in the next financial year.

BASIL STAFFORD TRAINING CENTRE

Superintendent: R. JOACHIM, B.A. Dip.Psych.,
Grad.Dip.Mgmt.
(to 6th June, 1984)
G. ROSS, M.Soc.Wk.
(from 7th June, 1984)

This year has seen a significant turnover of clients, with children and young adults transferring to the Sandgate Centre and the Brisbane North and South Alternative Living Services respectively, while a number of former Wolston Park Hospital patients have been admitted.

Early December saw the centre being officially recognized as an *endowed institution* by the Department of Social Security. Whilst families will no longer receive family allowance for a child living at the centre, such a child under 16 will have credited to his/her trust account, an amount equivalent to the two children rate.

It has been agreed to have persons work at the centre in a voluntary capacity to whom the courts have given community service orders. Those involved will be those whom the courts have decided not to send to prison but to perform work to assist persons in the community. The work to be done at Basil Stafford Training Centre will be under the auspices of the Parents and Friends Association and will consist of projects designed to enhance the environment.

A safety committee has been established for the purpose of investigating accidents of staff and residents with a view to their reduction and to educate staff on safety matters.

A Calendar of Events for 1984 was completed by the Superintendent and circulated to staff, as well as parents and friends and other interested bodies. It is proving to be useful and has received favourable comment.

In June, the first Superintendent of the centre, Mr R. Joachim, was appointed as Deputy Director of the branch after working at the centre for over seven years.

Clinical/Therapeutic Activities

Currently, some 36 clients attend schools and activity programmes at community facilities run by other agencies, while considerably more clients attend activities centres provided by the branch. Unit-based programmes are conducted for clients not attending other facilities operated on a daily basis, with the aim that clients' attendance be gradually increased to 20 hours per week. The activity centres offer between 14 and 32 hours per week of activities for clients.

The demand for activity centre placements as opposed to unit based activities is increasing steadily as clients are developing social skills and need to establish broader social bases. A significant and welcome development towards the end of the year has been the establishment of a special Education Department programme for a group of children from the centre who have been previously difficult to place in community schools. Centre staff are providing support to this programme.

Second Relief House

On 5th March, 1984, Boronia Villa became a relief house for adults taking this responsibility from Challinor Centre.

Staffing

As well as appointment of new residential care staff, some former Wolston Park Hospital staff have responded to a recruitment programme. A number of centre staff have transferred to positions in alternative living services, to accompany centre residents.

Staff Training

Twenty-nine residential care officers graduated on 18th November, 1983, and 22 on 8th June, 1984, making two-thirds of centre staff now graduate officers.

A range of courses and seminars have been offered, including: Royal Childrens' Hospital introduction to Basil Stafford Training Centre, meetings course, medical and legal rights seminar, residential duty officer induction, and a seminar on burn-out.

Library

With the appointment of the branch librarian and the branch library moving from Biala to Challinor Centre, staff are taking advantage of the library resources. Cataloguing has already begun and general library procedures have been improved to provide a more useful service.

Physical Environment

Volunteer workers of the Wacol Rehabilitation Clinic continue to provide services in beautifying the grounds and undertaking valuable projects. The banksia adventure playground was completed late last year. A new car park near the waratah/araluen area has recently been completed. It is bitumenized with concrete kerbing and provides all-weather service for 37 vehicles. Plans for the renovation of certain areas in the administration block are nearing completion. Final plans have now been received from Works Department.

IPSWICH SERVICES

(Covering Ipswich and surrounding Shires and Challinor Centre)

Superintendent: G. deGLAS, B.A.
Medical Superintendent (Challinor Centre):
G. McCUTCHEON, M.B., Ch.B.

Ipswich services have been extended in client members, through the movement of former Wolston Park Hospital patients as well as by natural increase in demand for services for child clients, and in the scope of the service through the development of interagency planning and coordinating and service delivery committees in the Ipswich region as well as by on-going close liaison with Friends of Challinor Aid League (F.O.C.A.L.) Incorporated. The latter organization has attracted several significant Commonwealth grants to be applied to service extension in the Ipswich region.

A notable event was the establishment on 12th March, 1984, of short-term accommodation in a community-based house at Thorn Street, with consequent ceasing of relief within Challinor Centre itself. Access to the community by clients was assisted by the donation of a minibus by Programmed Maintenance Services. An important community initiative has been the establishment and development of the Ipswich Workers Community Co-operative Ltd, which officers of the region have been pleased to support because of the variety of work options thereby available to clients.

On 6th December, 1983, the Superintendent's office and other administrative sections of the Ipswich Regional Resources Services moved into excellent premises at 16 East Street, Ipswich, placing this office firmly in the community.

Resource and Assessment

Services for community-based clients are divided into children's and adults' services. Two playgroups are provided weekly for children and the availability of the relief house in Ipswich has brought an increase in referrals of children for that service.

A course in stress management for parents proved most effective and underlines the need for active planning for parent training and family education. An information-sharing service was conducted in early June for local general practitioners. While the response was disappointing, this is regarded as only the first step in an important process.

Adult services focus on the support of clients in the alternative living service as well as community clients living with families. This support includes day activity programmes, social activities, training in independent travel, use of banking and shopping facilities and recreational and social skills.

Alternative Living Service

Client numbers have increased to 110 persons. A concern is the need for clients to move from rented houses, as has occurred on several occasions. Planning is in hand in the region so as to avoid this disruption to residents' lives in future and provide more secure rental situations.

Staff Development

The Certificate in Residential Care remains the main focus of staff development in Ipswich region. Over half of direct care staff employed are now trained and the majority of officers enter training within four months of employment. A revised course was commenced in the region at the end of February 1984. Special need courses have increased with focus on professional and administrative staff, as well as graduate residential care officers.

Community Liaison and Development

This service has been well developed and effectively used in the Ipswich region and has been instrumental in securing numbers of volunteers and in facilitating interagency relationships.

CHALLINOR CENTRE

Although Challinor Centre forms part of the Ipswich services, it is dealt with separately in this report.

The past year has seen a marked improvement in the physical environment of the centre through garden competitions (indoor and outdoor), in which staff and residents have participated enthusiastically, and the development of flats and more personalized living situations within residential units.

A range of clients are catered for within the large campus of the centre. At the same time it must be recognized that the population of the centre comprises more aging residents, physically handicapped residents and emotionally disturbed residents than previously, which has important implications for staff. Overall client numbers have remained static during many moves, with a turnover of some 72 persons. The centre has also provided regular adult relief placements in the midst of other client moves until March 1984.

Challinor Centre has frequently been the focus of new developments and the establishment of central library services at Challinor Centre within the excellent facilities of the staff development building provides a much-needed resource for the whole branch. The use of community-based houses for residential training programmes has eased the resident numbers present at any one time in Blair Pavilion, to enable more personalized use of space in this older building.

Some 120 clients attend vocational programmes in either a full-time or sessional basis. A metalwork fabrication workshop employs 12 clients and a native plant nursery is developing and employs four clients.

The Pharmacy Department of the centre fulfills a number of important functions. An increase of 25 per cent in prescription numbers over last year reflects both discharges to the alternative living service and replacement by new residents already taking larger quantities of medication. A survey of medication patterns of a group of residents admitted from Wolston Park Hospital showed that the residential care model resulted in a 26 per cent decrease in behaviour-control medication.

As a result of the Wolston Park moves, there has been some increase in professional staff establishment, but there has been continuing difficulty in attracting experienced therapists. The nursing service continues to provide valued support to the centre residents not least by their regular rounds, and also works with both centre medical officers and visiting consultants in the centre surgery.

Challinor Centre has offered a State-wide service for many years, but is also an integral part of the Ipswich region. With developments in other regions, the needs of Ipswich clients can be given more emphasis, without losing flexibility to respond appropriately to emergent situations throughout the branch.

TOOWOOMBA SERVICES

(Covering the Darling Downs and South West Region)

Superintendent: S. PEARSON, B.A.

Emphasis this year has been towards improving service delivery in all areas. Identification of needs and liaison with other bodies have been important parts of the process. The general goal is to move to a position of planned growth with a consequent reduction in the need for reaction to crises.

Resource and Assessment

Service delivery continues as a two-team model: children's team and adult team. A review of referral and case review procedures has maximized resource input where a professional is required to service both teams, as does the social worker.

Country Visits

The problem of providing adequate service to country clients, weighed against the significant cost in terms of travelling time, continues to be a matter of concern. The pattern for servicing the far-west has been changed with less frequent visits, but of longer duration, being made. This has been accompanied by the use of video whereby staff are video-taping programmes on the spot for retention by the parents. The promotion of self-reliant local groups for country clients is seen to be imperative. Efforts are being made through the community liaison section and other staff to facilitate the development of such groups.

Programmes

Regular therapy programmes are conducted at Unara Clinic in conjunction with home visits, country trips and input into the residentials. Close co-operation between Special Education and this service has enabled improvements. The highly successful joint SHEPARD project in the Toowoomba South Special Education Unit has been of note.

Residentials

No change has taken place during this year in the number of beds available with the exception of one relief bed which is occupied by a long-term patient. Overall demand for relief has fallen as a result of the permanent placement of a number of relief clients. At the same time demand for permanent beds has increased and behaviour problem clients are surfacing as a significant group requiring relief.

A review of the Tredgold House population (at Baillie Henderson Hospital) has been completed with a view to future re-organization of this group who remain difficult to manage.

Staff Training and Development

The acquisition of a position of staff development officer is seen as a very significant development. To date staff training has been the responsibility of the villa director, a responsibility that has demanded considerable input in terms of time and effort which should have been used in other ways. Professional staff receive input through the Reader Awareness Scheme, periodic visits to professional group meetings in Brisbane and occasional participation in seminars and conferences. All professional staff are involved in a twice-yearly planning exercise at which goals are set and progress monitored.

Staffing

Since 1st July, 1983, the establishment has remained constant with the exception of the addition of the staff development officer. The year started with a full complement of professional staff. Turnover of residential care staff has increased in the second half of the year as a result of two dismissals, four resignations and a number of accouchment leaves. This turnover has come after a period of little movement and will increase staff training requirements.

Community Service Orders

The Community Villa continues to receive assistance as required from this service which has proved to be a useful adjunct to existing resources.

Adult Day Centre

This service now provides for in excess of 32 clients drawn from the community and residentials. An extension of the service to include some clients from Baillie Henderson Hospital is envisaged.

Apart from regular activities conducted from its Russell Street base, a total of four holidays for adults will have been enjoyed by adult residents this year. The centre is now actively looking at vocational and training options and in this regard liaison with other organizations is taking place. Initiatives either commencing or planned for the near future include a nursery work programme and out of hours service.

Client Records

Although the Toowoomba region was one of the first to be involved in ITEP it is only this year that the system has begun to be fully adopted.

Community Liaison and Information Resource Service

This is the first year of the operation of the community liaison section. The task has been to create greater awareness of the services available from Intellectual Handicap Services both amongst the community and amongst professionals. Clear benefits are being seen as a result of such promotion although with heightened awareness comes greater demand for service, a situation requiring careful response. Emphasis in the near future will be on community education with a view to overcoming resistance to the intellectually handicapped in the community particularly in the Toowoomba area, facilitation of self-help groups, improvements in volunteer recruitment and broad dissemination of information.

Inter-Departmental and Private Agency Liaison

Relationships with other agencies remain positive with active joint planning in areas of mutual interest. Sharing of facilities and resources is common place and more frequent discussions are taking place at all levels thus improving understanding and communication. It is expected that these trends will continue with proposed joint seminars and reciprocal training sessions being offered to relevant staff.

MARYBOROUGH SERVICES

(Covering the Wide Bay-Burnett Area)

Superintendent: C. CAMPBELL, B.Sc., Dip.Psych.

The Wide Bay/Burnett region has achieved considerable stability in both community service and residential areas, and within resource limits, appears to be providing a balanced service in the regional area.

Resource and Assessment

The community team comprises psychologist, social worker, occupational therapist and speech therapist. This team will be completed by the addition of a physiotherapist. The size of the active caseload is stable at about 120 clients, spread across the Gympie, Kingaroy, Maryborough, Hervey Bay, Bundaberg and Monto districts. Early intervention groups operate for three sessions weekly in Maryborough. This is a joint enterprise with the Education Department who provide a preschool teacher and aide.

Parent support groups are in place in various forms in Maryborough, Kingaroy and Bundaberg. An early intervention programme employing three therapists, administrative assistant and research assistant has been established in Gympie funded by the Community Employment Programme. The occupational therapist has been involved extensively in the establishment of the project on a consultant basis.

Residentials

There is on-going demand for long-term accommodation, particularly for adult clients. The social worker has been active in investigating private sector options and has managed to place clients in hostels in other regions. Waiting list demands could be reduced through expansion of the alternative living service, dependent upon additional staff. A five-year plan of requirements has been submitted.

Residential services comprise a villa with 20 long-term beds and four short-term beds, and an alternative living service house leased privately by five clients.

Commonwealth Schools Commission funds continue to make an important contribution to the quality of villa services. This year has seen the employment on a part-time basis of a speech therapist and music therapist and a heated therapy pool is to be provided from a current grant to the disabled children's ward at Maryborough Hospital. Plans have been prepared for modifications and extensions to the existing administration building to provide accommodation for the community team.

Staff Training and Development

A small number of residential care officers have graduated during the year. The region relies on resource staff input to training from within the region and elsewhere in the branch, co-ordinated by the villa director.

Adult Day Centre

The adult centre continues to provide a daily programme to a villa contingent and to a small number of community clients. This group is well supported by the Friends of the Villa Association.

Active involvement in the disabled children's ward at Maryborough Base Hospital has been maintained. A significant development has been the creation of two teacher positions by the Education Department.

ROCKHAMPTON SERVICES

(Covering the Central and Central West Area)

Superintendent: P. KIESEKER, B.H.M.S.(Ed.); B.Ed.St.

The region has expanded significantly in the latter part of the past year, with developments in both client (residential) and staff (office and clinical) accommodation.

Resource and Assessment

The superintendent's office and resource and assessment services are now relocated in the former Yungaba Migrant Hostel, a charming old colonial home which provides an excellent atmosphere for client contacts.

Clients

The active cases now number over one hundred, with increasing numbers of older people referred, especially in outlying areas, indicating both current and future problems in their accommodation. The superintendent is actively involved in a number of local committees, involving other government and non government bodies concerned with intellectually handicapped people.

Programmes

School vacation programmes have continued this year with increased numbers. The Friday afternoon volunteers programme utilizes high school students on a regular basis for recreational programmes for villa and community children. The AIMS programme is a villa-based daily programme for profoundly retarded people who cannot attend the adult centre.

Staff Development and Training

The revised Residential Care Officer Certificate Course is in progress and a new intake has commenced training. The need for training for administrative officers has been recognized. In the absence of courses in management services, a supervision development programme was conducted in May. The appointment of a staff development officer has enhanced the potential for further staff development initiatives.

Residentials

An administrative block and two additional houses were opened which has extended the capacity to meet urgent client needs for this service. All villa clients have training and environment plans and all clients are attending an increased number of social outings including discos, skating, horse-riding, theatre and socials. A team of residential care officers is responsible for co-ordinating the villa activity group for profoundly retarded clients including both resident and community clients. Four staff positions are deployed at the adult centre from the villa so as to continue this important programme. The villa is well supported by interested parents and friends.

Adult Centre

Programmes include leatherwork, music and movement, music lessons, work experience, construction of concrete garden accessories within TAFE designed and built moulds, garden project, individual training plans, environment plans, activities (e.g. table top, bottle cutting, weaving craft etc.). Clients include an increasing percentage of older people and there are also some shared clients (i.e. from Endeavour, Spastic Centre, Eventide). Volunteers are used extensively. They have participated in Halliwick workshops including swimming methods, total communication, and training of the blind.

Alternative Living Services

The first alternative living services in Central Queensland commenced in May with residents occupying a house formerly leased by Karakan Hostels. Five clients moved to Rockhampton as a consequence of the Wolston Park Hospital Relocation Project, to enable them to be closer to their families.

TOWNSVILLE SERVICES

(Covering the North, Far North and North West)

Superintendent: D. CROFT, B.A.(Hons.), Cert.Ed., Dip.Ed.Psych. (from 1-7-83–2-3-84)

Although the service is still relatively new, a firm foundation has been established within the limited area of Townsville, while attempts are being made to extend this solid base into more remote areas as resources permit.

The resource team, which has fluctuated in strength over the year, operates from premises at 25 Acheron Avenue, Cranbrook. The accompanying relief house at Heatley, is well staffed and well used. Six residential care officers staff the house, while another two carry out programme duties elsewhere. During staff training weeks, the facility is normally closed although emergency admissions are accepted.

Resource and Assessment

The ITEP system is now in place. While it is placing heavy demands on staff time, it is a valuable framework for client service. Attendance at weekly case conferences is now being given priority by all staff so that individual client programmes are under regular review.

Service is being provided to 124 clients throughout the region.

The relief house has functioned for 18 months and serves four main functions: to provide relief for parents of clients; to enable the resource team to carry out thorough assessments of clients and prepare training plans; to demonstrate training procedures to parents or others who will act as implementers within the client's home territory; and to provide emergency crisis care. Admissions are made on a rostered basis, with the maximum period of admission being limited by the heavy demand. An emergency bed is used sparingly to provide for genuine crises, but the remaining beds are seldom vacant.

Staffing

The superintendent's position is at present vacant. It is hoped to commence the new year with full staff strength.

Staff Training

Staff training is proceeding well. Two residential care officers are fully trained, while the other six will soon have completed their training course. Continuing staff development is a priority. Staff have been arranging regular workshops or seminars on matters of interest. Professional staff in a remote region such as this need regular contact with their peers; in this regard, all are keen to see a "buddy" system implemented which would provide one means for such regular contact.

Community Development

A great deal of the work done by this service has been in the area of community liaison. Practically, it is impossible to provide regular personal contact for clients who live in remote areas. Local agencies therefore are encouraged and assisted to maintain support for such clients whenever possible. Numerous agencies have been involved with this service over the year. Considerable support is still being provided for the Kith and Kids organization locally. Volunteers are being recruited and trained as needed to assist in various aspects of client training.

The establishment of the consumer resources service has been helpful in the task of making appropriate information available when it is needed or requested. The publication of a newsletter is another initiative undertaken to help in the sharing of information.

DIVISION OF PSYCHIATRIC SERVICES: MAINTENANCE (INCLUDING SALARIES) EXPENDITURE—1983-84

Service	Department of Health	Department of Works	Total	Daily Average Residency	Annual Cost per Patient	Daily Cost per Patient
	$	$	$		$	$
Office of the Director—						
(Includes Intellectual Handicap Services Branch, Head Office Supervised Group Homes, Community Support Group, Biala, and Mary Street Psychiatry Clinic)	3,038,988	1,033	3,040,021	..	..	..
Stones Corner Clinic	467,207	872	468,079	..	..	..
Gold Coast Clinic	88,187	..	88,187	..	..	..
Totals	3,594,382	1,905	3,596,287	..	..	..
Psychiatric Hospitals—						
Wolston Park Hospital and Barrett Centre	23,805,782	134,352	23,940,134	673.70	35,535	97.09
Wacol Repatriation Pavilion*	1,579,176	..	1,579,176	85.76	18,414	50.31
Baillie Henderson Hospital	12,370,129	298,807	12,668,936	439.00	28,859	78.85
Mosman Hall	3,290,379	102,754	3,393,133	173.27	19,583	53.50
Totals	41,045,466	535,913	41,581,379	1,371.73	30,313	82.82
Intellectual Handicap—						
Brisbane Regional Resource Service North	2,788,165	9,180	2,797,345	30.82	..	..
Townsville Regional Resource Service (including villas)	353,191	3,643	356,834	2.91	..	..
Rockhampton Regional Resource Service (including villas)	839,391	5,739	845,130	11.80	..	..
Maryborough Regional Resource Service (including villas)	929,807	16,277	946,084	22.66	..	..
Toowoomba Regional Resource Service (including villas)	1,064,142	17,670	1,081,812	22.50	..	..
Ipswich Regional Resource Service	12,011,932	186,038	12,197,970	342.37	35,628	97.34
Brisbane Regional Resource Service South	6,943,660	27,696	6,971,356	171.74	40,592	110.91
Totals	24,930,288	266,243	25,196,531	604.80	41,661	113.83
Cash Equivalent of Long Service Leave	305,494	..	305,494	..	..	..
Grand Total	69,875,630	804,061	70,679,691	1,976.53	35,759	97.70

* Recouped from Commonwealth Department of Veterans' Affairs.

FUNDS COLLECTED FROM HOSPITALS AND CENTRES

Source	Amount	Per Patient Day
	$	$
Maintenance Paid by Patients—		
Wolston Park Hospital	1,640,470	5.90
Baillie Henderson Hospital	1,218,510	7.58
Mosman Hall	533,392	8.41
Ipswich Regional Resource Service	1,139,575	9.09
Brisbane South Regional Resource Service	348,262	5.54
Community Villas	63,744	2.90
Brisbane North Regional Resource Service	2,663	0.23
	4,946,616	6.83
Recouped from Department of Veterans' Affairs*	2,251,074	..
Pharmaceutical Benefits	532,257	..
	7,729,947	10.68

* Does not include recoupment of expenditure on capital works.

H. R. G. BARRETT PSYCHIATRY CENTRE
Showing Admissions and Discharges During the Year Ended 30th June, 1984

Patients	Male	Female	Total
On the Books as at 1st July, 1983	70	50	120
Total admissions during year	497	446	943
Total Under Care during year	567	496	1,063
Total Discharges during year	499	447	946
Resident as at 30th June, 1984	34	20	54
On Leave as at 30th June, 1984	34	29	63
Total on Hand as at 30th June, 1984	68	49	117
Average number daily resident	36.87	28.71	65.58

The above are preliminary figures only. More precise and detailed figures will be available in late 1984.

PSYCHIATRIC HOSPITALS
Showing Admissions and Discharges During the Year Ended 30th June, 1984

Patients	Wolston Park Hospital & Wacol Repatriation Pavilion			Baillie Henderson Hospital			Mosman Hall			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
On Books as at 1st July, 1983	546	229	775	270	181	451	197	..	197	1 013	410	1 423
Total Admissions during year	185	116	301	181	131	312	99	..	99	465	247	712
Total Under Care during year	731	345	1 076	451	312	763	296	..	296	1 478	657	2 135
Total Discharges during year	246	136	382	171	131	302	109	..	109	526	267	793
Resident as at 30th June, 1984	432	185	617	260	174	434	170	..	170	862	359	1 221
On Leave as at 30th June, 1984	53	24	77	20	7	27	17	..	17	90	31	121
Total on Hand as at 30th June, 1984	485	209	694	280	181	461	187	..	187	952	390	1 342
Average Number Daily Resident	..	..	694	..	..	439	..	..	171	..	..	1 304

* The above are preliminary figures only. More precise and detailed figures will be available in late 1984.

CENTRES FOR THE TRAINING OF THE INTELLECTUALLY HANDICAPPED
Showing Admissions and Discharges During the Year Ended 30th June, 1984

Patients	Basil Stafford Training Centre			Challinor Centre			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
On Books as at 1st July, 1983	97	90	187	216	156	372	313	246	559
Total Admissions during year	212	78	290	65	45	110	277	123	400
Total Under Care during year	309	168	477	281	201	482	590	369	959
Total Discharges during year	212	95	307	66	56	122	278	151	429
Resident as at 30th June, 1984	90	70	160	204	132	336	294	202	496
On Leave at 30th June, 1984	7	3	10	11	13	24	18	16	34
Total on Hand as at 30th June, 1984	97	73	170	215	145	360	312	218	530
Average Number Daily Resident	..	..	172	..	..	342	..	..	514

* The above are preliminary figures only. More precise and detailed figures will be available in late 1984.

MENTAL HEALTH REVIEW TRIBUNAL

Applications for 1983–84	Number	Totals
Adjourned from 1982–83	4	
Awaiting hearing as at 30-6-83	32	
		36
Received by Tribunal during 1983–84—		
From patients	71	
From nearest relatives of patients	4	
		75
		111
Heard by Tribunal during 1983–84—		
Refused	58	
Discharge recommended	1	
Discharge ordered	2	
Transfer recommended	3	
Leave recommended	4	
Specific recommendation declined	1	
Adjourned as at 30-6-84	5	
		74
Awaiting hearing as at 30-6-84		11
Applicants who failed to appear before Tribunal—		
Withdrew Application	9	
Discharged by Hospital	13	
Declared a voluntary patient	4	
		26
		111

DIVISION OF PSYCHIATRIC SERVICES: LOAN FUND EXPENDITURE 1983–1984

Service	Amount	
	$	$
Wolston Park Hospital—		
Stage 3 Sewerage	77,459	
Emergency and Standby Lighting (IIIA)	7,425	
Emergency and Standby Lighting (IIIB)	27,987	
Other Works	43,020	155,891
*Wacol Repatriation Pavilion**		50,159
Baillie Henderson Hospital—		
Indoor Recreation Centre	2,106,494	
Other Works	91,341	2,197,835
Mosman Hall—		
Connection to Sewerage	7,200	
Other Works	7,418	14,618
Psychiatric Clinic, Stones Corner—		
Miscellaneous Works	1,811	1,811
Challinor Centre—		
Emergency Power	92,514	
Other Works	27,959	120,473
Basil Stafford Training Centre—		
Miscellaneous Works	7,154	7,154
Sandgate Centre—		
Miscellaneous Works	1,555	1,555
Community Villas—		
Townsville—Miscellaneous Works	3,627	3,627
Rockhampton—		
Erection of 2 Villas	334,489	
Other Works	16,278	350,767
Toowoomba—		
Miscellaneous Works	6,758	6,758
$	..	2,910,648

* *Recouped from Commonwealth Department of Veterans' Affairs.*

Division of Dental Services

Director of Dental Services: G. R. McKELVEY, B.D.Sc.(Qld.), F.I.C.D.

Deputy Director of Dental Services: P. C. COMISKEY, B.D.Sc.(Qld.), F.R.A.C.D.S.

The involvement of the Division of Dental Services is described under three headings, namely:

- Queensland (Hospital-Based) Dental Clinic Service
- School Dental Therapists Training Scheme
- Queensland School Dental Service

QUEENSLAND (HOSPITAL-BASED) DENTAL CLINIC SERVICE

Dental Hospitals and Dental Clinics—	3
Dental Hospitals	59
Base Dental Clinics (including 3 attached to Dental Hospitals)	68
Other Dental Clinics	3
Service provided by private dentists in their own surgeries	
	133

DENTAL STAFF

Approved establishment (Dentists)—Queensland Dental Hospitals and Dental Clinics

North Brisbane Hospitals Board—	
Brisbane Dental Hospital and Sandgate Dental Clinic	31
Children's Dental Hospital	13
Maxillo-Facial Unit	1
South Brisbane Hospitals Board—	
South Brisbane Dental Hospital, Wynnum Dental Clinic, Inala Dental Clinic and Yeronga Dental Clinic	21
Queen Elizabeth II Jubilee Hospitals Board—	
Queen Elizabeth II Jubilee Hospitals Dental Clinic	5
Wolston Park Special Hospital, including Challinor Centre	2
Country Dental Clinics—	
Full-time dentists	91
Part-time dentists	6
Part-time consultant specialists	9
Private dentist providing dental services in his own surgery (part-time)	3
Full-time	164
Part-time	18

Approved establishment (Dental Technicians)—Queensland Dental Hospitals and Dental Clinics

North Brisbane Hospitals Board—	
Brisbane Dental Hospital	28
Children's Dental Hospital	4
Sandgate Dental Clinic	2
Maxillo-Facial Unit	2
South Brisbane Hospitals Board—	
South Brisbane Dental Hospital	
Wynnum Dental Clinic, Inala Dental Clinic and Yeronga Dental Clinic	16
Queen Elizabeth II Jubilee Hospitals Board—	
Queen Elizabeth II Jubilee Hospital Dental Clinic	5
Wolston Park Hospital	1
Country Dental Clinics—	
Full-time	83
Part-time	2
Full-time	141
Part-time	2

Approved establishment (Dental Assistants)—(Queensland Dental Hospitals and Dental Clinics (including Dental Sisters))

North Brisbane Hospitals Board—	
Brisbane Dental Hospital	
Children's Dental Hospital	
Sandgate Dental Clinic	
Maxillo-Facial Unit	38
South Brisbane Hospitals Board—	
South Brisbane Dental Hospital	
Wynnum Dental Clinic, Inala Dental Clinic and Yeronga Dental Clinic	18
Queen Elizabeth II Jubilee Hospitals Board—	
Queen Elizabeth II Jubilee Hospital Dental Clinic	5
Wolston Park Hospital	2
Country Dental Clinics—	
Full-time	88
Part-time	29
Full-time	151
Part-time	29

Nature of the Service

The hospital-based dental clinic service in Queensland provides a comprehensive general practitioner service to those persons whose economic circumstances make it difficult for them to obtain private dental care and for those, at all income levels, living in areas where no private dental practice exists.

The service extends to the provision of certain specialist services at dental hospitals and at a number of larger base dental clinics. For example, full-time orthodontic positions exist at the three metropolitan dental hospitals, while part-time consultant orthodontist positions are included in the establishments of the Bundaberg, Cairns, Emerald, Gympie, Ipswich, Mackay, Nambour, Rockhampton, Southport, Toowoomba and Townsville dental clinics.

IMPROVEMENTS AND EXTENSIONS TO THE DENTAL CLINIC SERVICE

Actual and Proposed during 1983–84

Improvements, including the replacement of major items of dental equipment, were made within a number of dental clinics during the year.

The following is a summary of the more significant building projects in progress or planned:

Bundaberg—Proposals for further hospital redevelopment which will include an enlarged dental clinic are under review.

Caloundra—A new two-surgery dental clinic within the hospital is now functioning.

Chinchilla—Redevelopment within the hospital to provide new dental clinic facilities has been completed.

Cooktown—Working drawings for a new hospital which will include dental clinic facilities have been approved.

Dirranbandi—Tenders have been called for a new hospital which includes a dental clinic.

Longreach—A new building which includes a dental clinic has been completed.

Mount Isa—An enlarged dental clinic has been designed for inclusion in a new hospital block.

Mungindi—A new hospital which includes a dental clinic has been completed.

Normanton—The hospital which includes a dental clinic has been completed.

South Brisbane—A new 11 surgery facility will be functional in July.

Taroom—Dental clinic facilities have been installed in the C.W.A. building.

Thursday Island—A two surgery dental clinic to cater for the hospital dental service and school dental service is now functioning.

Toowoomba—Designs will soon be prepared for further hospital redevelopment which will include the relocation of an enlarged dental clinic.

Woorabinda—Sketch plans are under review for a new hospital which will include a dental clinic.

Yeronga—Work has been completed on the modification of a portion of the clinical area of the School Dental Therapy Training Centre to a hospital clinic.

Visits to Country Areas

The Director or the Deputy Director visited the following centres outside the metropolitan area during the year in connection with dental services in those areas.

- Barcaldine
- Biloela
- Bollon
- Burketown
- Caloundra
- Clermont
- Cloncurry
- Dalby
- Dirranbandi
- Doomadgee
- Emerald
- Esk
- Hughenden
- Ipswich
- Jandowae
- Julia Creek
- Laidley
- Longreach
- Miles
- Mornington Island
- Moura
- Mount Isa
- Mungindi
- Nambour
- Normanton
- Redcliffe
- Richmond
- Springsure
- St. George
- Taroom
- Theodore
- Toowoomba
- Townsville
- Winton
- Woorabinda

Biennial Conference

The 3rd Biennial Conference of Dentists-in-Charge of Hospital Dental Clinics was held at the Yeronga School Dental Therapists' Training Centre from 16th to 19th April, 1984. Representatives from the three metropolitan dental hospitals, Q.E. II Hospital Dental Clinic and from the clinics at Bundaberg, Barcaldine, Bowen, Cairns, Dalby, Ingham, Mackay, Maryborough, Nambour, Redcliffe, Rockhampton, Sandgate, Southport, Toowoomba, Townsville, Wolston Park, Wynnum, Yeppoon and Yeronga were in attendance. The meeting featured a comprehensive lecture programme with lecturers drawn from within the Hospital Dental Service, from the School Dental Service and from private practice, demonstrations by representatives of the dental trade and a general meeting where common problems associated with clinic management were discussed with the Director and other senior divisional officers.

Relative Analgesia

The Relative Analgesia Unit at the Q.E. II Dental Clinic is now operational. Dentists-in-charge of the Barcaldine, Redcliffe and Southport Hospitals, where Relative Analgesia Units are also being established, attended the first orientation course at the Q.E. II unit. This course was organized by the dentist-in-charge of the Q.E. II Dental Clinic with the co-operation of the Manager, Medical Superintendent and Director of Anaesthesia. It is a Departmental requirement that dentists-in-charge of clinics where relative analgesia is being introduced should complete this course.

Orthodontics

In recognition of the increasing demand for orthodontic treatment and of the difficulties of attracting orthodontists to salaried positions, applications were invited from dentists within the service for scholarships to study for a Masters Degree in Orthodontics at the Queensland University commencing in 1985. Scholarship holders will be required to serve in the Queensland Public Dental Health Services on completion of the course.

STATISTICS—QUEENSLAND DENTAL HOSPITALS AND CLINICS—1983–1984

Statistical data for hospital dental services is dependent on returns which are not complete at the time of publication. The data will be available from the Director, Division of Dental Services in October, 1984.

SCHOOL DENTAL THERAPISTS TRAINING SCHEME

Principal Dental Officer (Training): G. E. GRUNDY, B.D.Sc.(Qld.), F.R.A.C.D.S., F.I.C.D.

Principal, School Dental Therapists Training Centre (Brisbane): P. A. DEFTEROS, B.D.Sc.(Qld.)

Principal School Dental Therapists Training Centre (Townsville): R. J. PYLE, B.D.Sc.(Qld.)

Senior Tutor Dental Officers: G. B. BERESFORD, B.D.Sc.(Qld.)
D. R. EXTON, B.Sc., Dip.Ed.(Qld.), B.D.Sc.(Qld.), B.Ed.St.(Qld.)
D. MATHEWS, B.Ch.D. (Leeds)
L. H. McALLAN, B.D.Sc.(Qld.), M.Sc.(Paedodontics, Univ. of London)
R. G. B. SMITH, B.D.Sc.(Qld.)
P. F. WOOD, B.D.Sc.(Durham), D.D.P.H.(London)

A total of 42 school dental therapists completed the course in February. An additional student completed course requirements in June 1984. Forward projections of dental therapist numbers necessitated a significant reduction in the student intake in 1984.

First year student enrolments at 30-6-84—	
Brisbane	14
Townsville	11
Second-year student enrolments at 30-6-84—	
Brisbane	29
Townsville	9

While an increase in first-year enrolments above the 1984 figure is expected to be required in some later years, enrolments of this order are able to be accommodated at the Yeronga (Brisbane) Centre and its two subsidiary clinical training centres. As a result of this reduced requirement Cabinet has decided to phase down the operation of the Townsville Training Centre which will close by February, 1986.

The co-operation of lecturers from other departments and institutions is acknowledged. Organized visits were made by students of both the Brisbane and Townsville Centres to various other institutions concerned with the welfare of children. The annual open day was conducted at both the Brisbane and Townsville Centres on Wednesday, 7th September, 1983.

An orientation programme was conducted for new field dental officers during January, 1984. A programme of one-day in-service training for field staff was continued this year. Field staff in Toowoomba, Gold Coast, Ipswich, North Coast, Bundaberg, Rockhampton, Mackay, Townsville, Cairns and Brisbane have participated. The delivery of the lectures has involved staff from both the field service and the training scheme. The course content emphasized dental health education and the treatment of traumatized teeth.

QUEENSLAND SCHOOL DENTAL SERVICE (FIELD SERVICE)

Principal Dental Officer (Field Services): W. T. VIDERONI, B.D.Sc.(Qld.), Grad.Dip.Bus.Admin.(Q.I.T.), A.F.A.I.M.

Orthodontist: R. S. GREENHILL, M.D.Sc.(Qld.)

Preventive Research and Planning Officer: T. M. McENIERY, B.D.Sc.(Qld.)

Regional Dental Officer (Northern): G. S. STERNBERG, B.D.Sc.(Qld.), Dip.D.H.(Qld.)

Regional Dental Officer (Central): T. M. CONDON, B.D.Sc.(Qld.)

Regional Dental Officer (Southern): A. G. PURCELL, B.D.Sc.(Qld.)

Dental Officers (approved establishment)	57
School Dental Therapists (approved establishment)	293
Dental Assistants (approved establishment)	219

By the end of the 1983–84 financial year, the School Dental Service was close to attaining its goal of total coverage of all primary schools in Queensland. The care of children attending most schools in the areas served by the Cairns and Mount Isa Hospitals Itinerant Dental Services is in the hands of those dental teams.

The dental health of Queensland primary school children has been progressively improved during the recent years which has allowed the ratio of patients to operator to increase. This improvement has reduced the total manpower needs of the service considerably from that originally estimated. Full advantage of this increased student:operator ratio has been achieved by the extensive use of mobile dental clinics and by increasing static clinic patient loads utilizing a "feeder school" system.

An offer of treatment to pre-primary school children has been initiated, all children who have reached 5 years of age being eligible for treatment. Treatment of these children is being carried out at existing facilities by existing staff.

At 30th June, 1984, 122 fixed clinics and 108 mobile road clinics were in operation throughout the State. Portable equipment is being used in the Gulf of Carpentaria and Cape York Peninsula areas.

A private practitioner was directly involved in providing dental treatment for primary school children in the Boonah area during the financial year as part of a pilot programme agreed to with the Australian Dental Association (Queensland Branch). A new service began at the St. George schools with a private practitioner providing the necessary direction and control of a school dental therapist.

The number of hospitals board employed dentists engaged in a part-time basis with the School Dental Service has been increased. Dentists from the following towns now are involved in the School Dental Service—

Barcaldine
Blackall
Bowen
Cairns
Charleville
Charters Towers
Cloncurry
Collinsville
Dalby
Dirranbandi
Hughenden
Ingham
Innifail
Longreach
Mareeba
Mitchell
Mossman
Mount Isa
Proserpine
Richmond
Roma
Winton
Yeppoon

The 122 fixed clinics are situated throughout the State at the same schools as reported in 1982–83.

PREVENTIVE DENTISTRY AND EVALUATION

For the year 1983–84, the pattern of steady improvement in decay levels has been maintained. As noted in 1982–83, significant improvements occurred in permanent dentition with very marginal changes in the deciduous teeth of the Queensland school age population. For the first time in Queensland, average DMFT (decayed, missing and filled teeth) at age 12 fell below three. The final figure for 12-year-olds, 2.81, betters the World Health Organisation's goal for the year 2000. This, in itself, is a source of considerable satisfaction. It is even more satisfactory when the Division's own goals set some years ago are compared. In view of the steady decline in caries scores, a more stringent local goal of 2.5 DMFT (WHO's standard for low caries classification) was adopted first for 1990 and then advanced to 1988 as the Division's Bicentennial aim. From the considerable amount of data amassed over the last five years it would appear that Queensland decay rates are stabilizing at a DMF of 0.17 at age 6 with constant year to year increments of 0.35. This portends an eventual flattening of the decline curve at slightly below 2.3 and 1985 as the year in which a sub 2.5 age 12 score will be first achieved.

In the deciduous dentition, decay activity has shown a marginal improvement after remaining virtually static for the previous two years. School Dental Service treatment is now being extended to all children not yet attending primary school who have attained their fifth birthday. While this may result in some reductions in decay in those commencing school (due to earlier inception of preventive programmes) it is not expected that the df rate will diminish greatly. Cavity formation is generally well established in the deciduous dentition by age five and educational programmes to young mothers' groups seems to offer most promise for improving the first teeth of the young child. Educational materials suitable for talks to such parents have been distributed and their use will be emphasized in future in-service training programmes.

The dental health of the adult population is coming under closer scrutiny. The World Health Organization, besides setting objectives for child age groups, has also defined aims for adult groups at 18 years and onwards. Implicit in these goals (and indeed explicitly expressed as a goal in its own right) is the collection of adequate data on adult dental health.

The Division of Dental Services has been active in this field by the collection of adult data in the Hospital Dental Clinics. Initiatives by the University Department of Social and Preventive Dentistry to design and conduct an adult dental survey were therefore welcomed and fully supported by the Division. Adult data from the hospital dental clinic collection system were made available to the University for calculation of sample sizes and the Division made a massive contribution to the survey work force both in dentists as examiners and in dental therapists and dental assistants as recorders. Well over a hundred Division officers participated and additional assistance was rendered by making available strategic school dental clinics as local area centres during the examination phase. The Division of Research and Planning of the Health Department is currently coding and computing the data, and preliminary results will be available during the current year.

1979–1983 CARIES STATUS IN PERMANENT DENTITION

Age	Year	Number of Children	D	M	F	DMF	F/DMF	% with Zero DMF Teeth	% with Zero DMF or df Teeth	% with Zero D or d Teeth
5	1979	9 480	0.06	. .	. .	0.06	6.45	96.12	43.05	48.74
	1980	11 364	0.04	. .	. .	0.04	6.27	97.01	43.84	49.58
	1981	14 499	0.03	. .	. .	0.03	6.92	97.56	46.40	51.38
	1982	16 471	0.03	. .	. .	0.03	6.72	97.77	46.17	51.96
	1983	20 185	0.02	. .	. .	0.02	6.06	98.14	49.96	53.34
6	1979	18 370	0.22	. .	0.07	0.29	23.40	84.59	35.24	48.97
	1980	21 010	0.19	. .	0.06	0.25	24.38	86.31	37.08	51.96
	1981	26 427	0.16	. .	0.04	0.20	20.84	88.60	39.25	51.97
	1982	30 294	0.14	. .	0.04	0.18	21.89	89.62	40.40	54.75
	1983	33 875	0.13	. .	0.03	0.16	24.04	90.14	40.10	56.12
7	1979	18 587	0.48	. .	0.35	0.84	41.68	62.39	26.47	46.90
	1980	21 410	0.41	. .	0.30	0.72	42.24	65.86	27.30	49.21
	1981	26 534	0.38	. .	0.24	0.63	39.11	69.31	30.68	51.94
	1982	30 841	0.31	. .	0.20	0.52	39.13	73.33	31.73	53.39
	1983	33 684	0.27	. .	0.21	0.49	43.32	75.09	32.78	56.85
8	1979	16 786	0.64	0.01	0.82	1.49	55.18	42.08	18.84	43.56
	1980	22 337	0.49	0.01	0.75	1.25	59.87	48.46	20.67	48.44
	1981	27 583	0.49	. .	0.60	1.10	54.97	52.74	22.54	48.47
	1982	30 460	0.40	. .	0.55	0.96	57.51	57.14	24.80	51.75
	1983	35 177	0.33	. .	0.51	0.85	60.10	60.91	26.11	56.20
9	1979	15 493	0.69	0.03	1.31	2.05	64.11	30.31	14.30	43.60
	1980	21 201	0.53	0.03	1.27	1.84	69.04	33.97	15.87	48.79
	1981	26 872	0.49	0.02	1.06	1.58	67.03	39.89	17.85	49.74
	1982	31 194	0.41	0.01	0.97	1.40	69.17	44.66	19.86	53.26
	1983	35 083	0.34	0.01	0.90	1.27	71.37	48.09	21.26	56.62

1979–1983 CARIES STATUS IN PERMANENT DENTITION — continued

Age	Year	Number of Children	D	M	F	DMF	F/DMF	% with Zero DMF Teeth	% with Zero DMF or df Teeth	% with Zero D or d Teeth
10	1979	14 427	0.81	0.08	1.75	2.65	66.11	22.55	12.41	44.98
	1980	18 894	0.59	0.06	1.71	2.37	72.35	25.49	13.12	50.34
	1981	25 989	0.56	0.04	1.51	2.13	71.11	29.48	15.77	51.45
	1982	31 908	0.45	0.03	1.37	1.86	73.84	35.48	18.34	55.61
	1983	35 717	0.38	0.02	1.29	1.69	76.18	38.74	19.94	59.17
11	1979	12 870	0.99	0.13	2.16	3.30	65.59	17.59	12.16	46.68
	1980	17 436	0.75	0.12	2.20	3.09	71.19	18.86	12.58	52.25
	1981	24 733	0.70	0.08	1.98	2.77	71.26	22.40	14.78	53.38
	1982	31 106	0.55	0.06	1.85	2.47	74.76	26.16	17.13	57.72
	1983	36 120	0.47	0.04	1.69	2.20	76.45	30.71	19.76	61.67
12	1979	8 218	1.27	0.18	2.65	4.12	64.41	14.01	11.52	46.06
	1980	11 119	0.95	0.20	2.69	3.85	69.79	14.59	11.68	51.96
	1981	16 215	0.85	0.15	2.49	3.51	70.69	16.40	12.83	52.97
	1982	19 025	0.71	0.09	2.33	3.15	74.00	20.19	15.89	57.69
	1983	23 606	0.59	0.06	2.14	2.81	76.23	23.38	18.19	61.68
13	1979	1 392	1.77	0.33	3.00	5.11	58.70	11.35	9.69	41.03
	1980	1 934	1.33	0.31	3.29	4.94	66.69	9.30	8.22	45.92
	1981	2 722	1.21	0.26	3.06	4.55	67.33	11.35	9.88	48.09
	1982	2 978	1.01	0.19	2.83	4.05	69.92	14.13	12.45	53.56
	1983	3 530	0.83	0.14	2.75	3.73	73.73	17.31	15.18	58.31
14	1979	284	2.21	0.61	4.36	7.19	60.67	5.98	5.28	36.98
	1980	349	1.62	0.61	4.21	6.44	65.30	6.30	6.01	41.55
	1981	464	1.49	0.42	3.87	5.79	66.87	10.99	9.48	45.05
	1982	533	1.18	0.37	3.68	5.25	70.13	11.06	10.13	49.16
	1983	557	1.00	0.31	3.68	5.01	73.74	11.84	10.41	54.22

1979–1983 CARIES STATUS IN THE DECIDUOUS DETENTION

Age	Year	Number of Children	d	f	df	% with Zero df Teeth
5	1979	9 480	2.10	0.59	2.69	43.57
	1980	11 364	2.05	0.61	2.67	44.23
	1981	14 499	1.92	0.52	2.45	46.80
	1982	16 471	1.88	0.57	2.46	46.52
	1983	20 185	1.78	0.61	2.40	47.26
6	1979	18 370	1.65	1.30	2.95	37.49
	1980	21 010	1.43	1.46	2.89	39.09
	1981	26 427	1.47	1.26	2.74	40.97
	1982	30 294	1.32	1.31	2.64	42.04
	1983	33 875	1.23	1.41	2.66	42.29
7	1979	18 587	1.24	1.77	3.01	31 89
	1980	21 410	1.01	2.01	3.07	32.14
	1981	26 534	1.04	1.87	2.93	35.44
	1982	30 841	0.93	1.96	2.90	35.85
	1983	33 684	0.80	2.03	2.83	36.77
8	1979	16 786	1.11	1.92	3.03	27.76
	1980	23 337	0.89	2.16	3.06	28.44
	1981	27 583	0.89	2.19	3.08	29.61
	1982	30 460	0.78	2.26	3.06	31.31
	1983	35 177	0.66	2.33	3.00	32.12
9	1979	15 493	1.00	1.81	2.82	26.92
	1980	21 201	0.75	2.05	2.81	27.86
	1981	26 872	0.76	2.06	2.82	28.69
	1982	31 194	0.66	2.21	2.88	29.66
	1983	35 083	0.57	2.33	2.91	30.58
10	1979	14 427	0.70	1.35	2.05	37.23
	1980	18 894	0.51	1.51	2.09	36.88
	1981	25 989	0.56	1.53	2.10	37.73
	1982	31 908	0.48	1.69	2.18	37.59
	1983	35 717	0.43	1.80	2.24	37.66
11	1979	12 870	0.40	0.74	1.15	56.96
	1980	17 436	0.33	0.82	1.16	56.73
	1981	24 733	0.32	0.86	1.20	56.76
	1982	31 106	0.29	0.94	1.25	55.87
	1983	36 120	0.25	1.04	1.31	55.06

STATISTICS—SCHOOL DENTAL SERVICES—1983–84

Total Attendances	1 010 254
Number of Courses of Treatment	277 108
Topical Fluoride Applications	258 700
Restorations	255 560
Extractions deciduous teeth	30 118
Extractions permanent teeth due to caries	715
Extractions permanent teeth for orthodontic reasons	3 307
Endodontic and Similar Treatments	10 267

Division of Health and Medical Physics

Director: J. P. McGILVRAY, M.Sc., M.A.I.P., M.I.B.M.E.

Physicists: D. F. MINES, M.Sc.
L. G. HINSCH, B.Sc., M.App.Sc.(Medical Physics)
R. N. CASEY, M.App.Sc.(Medical Physics)

Technical Officer (Radiography): N. H. SERICO, M.I.R.

Chief X-ray Engineer: P. G. McNEILLY

Senior Electronic Technician: A. J. DORAN

Senior Dental Servicing Officer: N. Neil

Instrument Maker: H. R. HUNT

INTRODUCTION

The demand for services provided by this Division increased due to the continued expansion and upgrading of patient-related equipment in health care services. This demand required redirection of many technical support programmes with curtailment of regular maintenance and expansion of breakdown services. Curtailment of Health Physics programmes, introduced last year, has had to be continued in order to inspect sites suspected of containing contaminated material produced by mineral sand mining practices.

The activities of the Division are described below. Corresponding activities for 1982–83 are in parenthesis.

STAFF

In addition to the Director, the Staff of the Division consists of three physicists, 32 technical staff and eight clerical and administrative staff.

Mr McGilvray is a member of the Queensland Radium Institute, Course Assessment Committees on the Diplomas of Applied Science in Diagnostic and Therapeutic Radiography and the Master of Applied Science in Medical Physics at the Queensland Institute of Technology, the Commonwealth State Consultative Committee on the Management of Radionuclide Waste and the Radiation Health Standing Committee of the National Health and Medical Research Council.

Mr Mines is a member of the Commonwealth Therapeutic Goods Standards Committee Subcommittee on Electromedical Devices.

Mr Hinsch is a member of the Commonwealth-State Co-ordinating Committee established under the Environment Protection—Nuclear Codes Act.

Mr Hinsch is secretary and Messrs McGilvray and Serico are members of the Radiological Advisory Council of Queensland. Mr R. Gowlett is secretary and Messrs McGilvray and Serico are members of the Radiological Services Advisory Committee. Several officers are members of other Departmental advisory committees.

Officers of the Division are members of the following committees of the Standards Association of Australia:—

EL18	Electromedical Equipment (Mr D. Mines);
EL18-EX	Executive Committee (Mr D. Mines);
EL 18/1	Safety Requirements (Mr D. Mines);
EL18/4	Baby Incubators (Mr D. Mines);
EL18/8	Dental and Mobile X-ray Machines (Mr J. McGilvray—Chairman);
EL18/10	Safety of Fixed Radiological Installations (Mr J. McGilvray);
EL18/11	Safe Use of Electricity in Hospitals (Mr D. Mines);
SF19	Protection Against Laser Radiation (Mr L. Hinsch); and
TE1/2	Hazards of Non-ionising Radiation (Mr J. McGilvray).

Mr J. McGilvray spoke to the Australian Institute of Physics and the Australasian College of Physical Scientists in Medicine on "Some Health Physics Aspects of Technically Enhanced Natural Radiation Resulting from Mineral Sand Mining Practices". He also attended conferences on Engineering and Physics in the Life Sciences (Sydney) and Radioactive Waste Management (Canberra).

Mr M. Dobson attended the National Technical Conference of the Australian Insititute of Radiography (Sydney) and the Far North Queensland Technical Conference (Mount Isa).

Health Physics Service

This service, in conjunction with the Radiographic Advisory Service, carried out 70 (47) assessments of applicants for a licence to use irradiating apparatus, required under the *Radioactive Substances Act Amendment Act* 1978.

The Radiological Advisory Council granted or renewed 848 (793) licences for irradiating apparatus and 350 (343) licences for radioactive substances. An increase in the use of irradiating apparatus in the State resulted in the issuing or renewing of 948 (928) Certificates of Registration. One prosecution was instituted for non-compliance with registration requirements.

The Radiation Monitoring Service commissioned a new dosimetry system in December 1983 and rationalized some procedures. The service to Papua New Guinea which has been provided since 1962 has transferred to the Commonwealth Department of Health. As a result, the number of services provided for the monitoring of radiation exposure of occupationally exposed personnel dropped to 22 737 (26 415).

The inspection of sites likely to have been affected by mineral sand mining practices resulted in 105 (217) inspections in the metropolitan area and 45 (68) outside the metropolitan area. In addition, four (4) sites were assessed to determine their suitability as disposal sites. Thirty-two (71) samples were assayed to determine gross activity levels and three (11) samples were analysed to identify the radionuclides present and their activities. The assays and analyses were conducted by the Physics Department, Queensland Institute of Technology. Environmental monitoring of beaches, assessment of remedial proposals for some large sites outside of the metropolitan area and review of transport practices have contributed to the activities in this area.

This service participated in the evaluation of decommissioning operations at Mary Kathleen uranium mine and of an evironmental impact statement for a uranium mine in North Queensland. This involved liaison with the Mines Department, Water Quality Council and mining companies and their consultants.

All professional staff of the Division were involved as the Radiation Monitoring Officer and as members of Emergency Radiation Monitoring Groups during a visit to the Port of Brisbane by a nuclear-powered warship.

Seventeen (39) inspections were made of premises occupied by persons licensed to possess and/or use radioactive substances or irradiating apparatus.

Advice was given on the radiation protection requirements for 15 (38) new or modified X-ray installations.

In the field of non-ionizing radiation, six (8) microwave ovens were inspected.

This service processed more than 2 000 enquiries from members of the public relating to ionizing and non-ionizing radiation practices.

MEDICAL PHYSICS SERVICE

This service is mainly concerned with inspection of and consultations concerning electromedical equipment and the notification of hazards.

Thirty-six items of electromedical equipment were subjected to examination to Australian Standards, as far as permitted by the facilities of the Division. Twenty-four of these were immediately acceptable. Twelve were rejected for various degrees of non-compliance, the most common of which was the use of non-approved power cords. Two units were later formally resubmitted in an acceptable form.

The majority of the users of the consulting service on electromedical equipment sought advice on the suitability of particular items for their hospitals. These contacts usually resulted in the preparation of specifications.

Toowoomba and Cairns Hospitals were visited in connection with preparation of specifications and the analysis of the resulting tenders for new Intensive and Coronary Care Units.

RADIOGRAPHIC ADVISORY SERVICE

Visits to hospitals for the purpose of inspecting facilities, assessing quality of work and tuition of staff totalled 150 (101).

The relieving radiographer service provided 71 (72) periods of relief to country hospitals.

Twenty-six (30) chiropractic centres were inspected.

This service participated in collaboration with the Department of Forestry in the assessment of a radiographic procedure for testing power poles and bridge pylons.

X-RAY ENGINEERING GROUP

A total of 769 (445) items of X-ray equipment required the attention of this group because of breakdowns. Of these 170 (110) were solved by the operator, radiographer or local electrician, acting under the direction of the X-ray engineer by telephone. A further 168 (100) units were repaired in the workshop and 431 (335) required a visit by an X-ray engineer.

The group made 234 (102) visits to hospitals to perform routine maintenance and was involved in 10 (10) installations or inspections of installations of X-ray equipment in hospitals.

MEDICAL ELECTRONICS GROUP

A total of 233 (207) regular service visits were made to hospitals to maintain electromedical equipment, carry out on-site repairs where possible, and offer advice and instruction to operators. In addition, 890 (977) items were serviced in the workshop. Loan equipment was despatched to hospitals on 41 (51) occasions.

Pre-delivery tests and inspections were carried out on 327 (204) items of new equipment prior to despatch to hospitals.

Monitoring of implanted cardiac pacemakers was performed for 238 (194) patients in 16 (15) hospitals.

Service of renal dialysis equipment used by patients at home or installed in country hospitals is performed by a subsection of the medical electronics group. During the year, 246 (141) problems were rectified. Eight (20) units were recalled from use for complete overhauls and another 23 (10) units were inspected, overhauled and tested prior to issue to patients. A total of 39 (51) regular maintenance visits were made. The on-call service, established to handle out-of-hours problems, handled five (12) problems.

DENTAL SERVICING GROUP

Regular service visits to maintain equipment, carry out on-site repairs where possible, and offer advice and instruction to operators were made to country hospitals and school dental clinics. A breakdown service is provided for metropolitan schools and hospital clinics.

A total of 466 (531) visits were made to fixed school clinics, 459 (413) visits to dental caravans and 121 (5) visits to school training centres. Equipment was installed in 10 (10) dental caravans.

Regular service visits to hospital clinics totalled 451 (373). Installations were carried out in 27 (13) surgeries.

Instrument repairs carried out in the workshop totalled 1 203 (1 268) and repairs to other types of dental equipment increased to 394 (314).

Special breakdown visits were made to 14 (23) country hospital clinics and school dental clinics.

INSTRUMENT REPAIR SECTION

This section receives instruments for repair direct from hospitals as well as repairing sub-assemblies for other service groups. When required, special purpose tools and instruments, not available commercially, are designed and fabricated.

A total of 201 (218) instruments were received from hospitals for repair. In addition, 1 069 (815) items were repaired or manufactured for other service groups.

A total of seven (15) special purpose instruments or accessories were manufactured. These ranged from a device for use in the service of dental equipment to accessories for use with diagnostic X-ray equipment.

EDUCATION AND TRAINING

Education and training are important components of regular service visits by all service groups. Benefits include improvement to the safety of operators and patients, more effective use of equipment, a reduction in the incidence of breakdowns and diminished unplanned downtime.

At a more formal level, staff of the Division took part in the following:—

- Training course for medical officers appointed to country hospitals;
- Training course for dental officers appointed to country hospitals;
- Training course for radiation safety officers in the Department of Primary Industries;
- Lectures to dental therapists on care and maintenance of dental equipment

Officers representing various services of the Division attended short training courses on servicing of a particular type of X-ray equipment, measurement of radiofrequency radiation, servicing of a new type of dialysis equipment, and the principles, operation and service of pneumatic controls.

Division of Laboratory Services

LABORATORY OF MICROBIOLOGY AND PATHOLOGY

Director: A. J. ANSFORD, M.B., Ch.B., D.C.P., F.R.A.C.P., F.R.C.P.A.

Pathologist-in-Charge, Anatomical Pathology: P. T. COONEY, M.B., B.S., F.R.C.P.A. (from 19-4-84)

Pathologists: A. DAVISON, M.B., B.S., F.R.C.P.A.
W. J. MAIR, M.B., Ch.B., F.R.C.P.A. to 16-9-83

Laboratory Supervision: I. COOK, M.Sc., M.A.S.M.

Supervising Serologist: N. D. Stallman, B.Sc., M.A.S.M.

Co-ordinator of Country Pathology: J. CAIRNS, B.App.Sc.

Scientist in Charge:
Biochemistry: J. SAVILL, B.App.Sc.
Virology: I. COOK, M.Sc., M.A.S.M.
Serology: N. D. STALLMAN, B.Sc., M.A.S.M
Bacteriology: Y. M. COSSINS, B.App.Sc., M.A.S.M.
Mycobacteriology: Z. M. BLACKLOCK, B.Sc.
Haematology: A. B. FINDLAY, Dip.Med.Tech., F.A.I.M.L.S.
Cytogenetics: J. A. BELL, Dip.Med.Tech.
Forensic Biology: G. J. HARMON, B.App.Sc., Dip.Med.Tech.
Neonatal Screening: F. G. BOWLING, B.Sc.
Wolston Park: B. P. PARKER, C.B.L.T., B.App.Sc.

INTRODUCTION

The Laboratory of Microbiology and Pathology consists of the State Health Laboratory situated in the Health and Welfare Building, the Institute of Forensic Pathology, an animal breeding Station at the Normanby and a branch laboratory at Wolston Park Hospital.

The laboratory is the only clinical diagnostic virology laboratory in Queensland and is the State reference laboratory for tuberculosis, clinical serology and public health microbiology. It provides the coronial autopsy service for Brisbane and the Forensic biology service for Queensland. The neonatal screening programme for inborn errors of metabolism for Queensland is conducted by the laboratory in association with the Division of Child Health.

The co-operation and assistance of the Government Chemical Laboratory, Queensland Institute of Medical Research, Queensland Police Department, Queensland hospital laboratories, Red Cross Blood Transfusion Service, University of Queensland, Commonwealth Health Laboratories, Commonwealth Serum Laboratory, Australian Radiation Laboratory, Commonwealth Institute of Health, the Institute of Clinical pathology and Medical Research, the Institute of Medical and Veterinary Science and the Centres for Disease Control (CDC), Atlanta, Georgia, are gratefully acknowledged.

STAFF AND GENERAL

Dr W. J. Mair resigned on 16th September, 1983, to enter private practice.

Dr. P. T. Cooney joined the staff on a temporary basis on 3rd January, 1984. He was appointed Pathologist-in-Charge, Anatomical Pathology, on 19th April, 1984. His duties include the supervision of anatomical pathology sections of the laboratory and supervision of training of pathology registrars seconded to this laboratory from the major metropolitan hospitals.

During the year a Vector Control Unit was formed in the Division of Environmental and Occupational Health. The Laboratory of Microbiology and pathology provides the laboratory support for the unit, and additional staff have been appointed on a temporary basis.

The scientific staff includes a laboratory supervisor, nine senior scientists, 26 scientists, 32 technicians, 15 technical assistants and cadets and 14 scientific assistants. Support staff includes a nursing sister, 15 attendants and 15 clerical and typing staff.

Dr Ansford is a member of the Committee to Enquire into Deaths Associated with Anaesthesia and the Queensland Perinatal Mortality Committee and is Executive Secretary of the Committee of Immunology Services.

Dr Davison is a member of the Maternal Mortality Committee.

Mr N. D. Stallman is in charge of the WHO/FAO Collaborating Centre for Reference and Research on Leptospirosis and is secretary of the Subcommittee of the Taxonomy of *Leptospira* of the International Committee on Systematic Bacteriology of the International Union of Microbiological Societies. He is also a member of an *ad hoc* working party of Arbovirus Laboratory Staff established by the National Health and Medical Research Council.

Mr D. J. Dawson, a senior scientist in the mycobacteriology section, is a corresponding member of the Bacteriological Subcommittee of the International Union Against Tuberculosis. He is also a member of a task group of the International Working Group on Mycobacterial Taxonomy and is particularly concerned with MAIS serotyping.

Mr J. Savill, scientist-in-charge of the biochemistry section, is the Queensland representative on the Australian Lipid Standardisation Committee.

Mrs J. Bell, senior scientist-in-charge of the cytogenetics section and Mr F. Bowling, scientist-in-charge of the neonatal screening section, hold executive positions in the Human Genetics Society of Australasia. Mr F. Bowling is also a member of the Australian Collaborative Working Party on Neonatal Screening

Mrs M. Wiemers, senior serologist, received a Public Health Travelling Fellowship from the National Health and

Medical Research Council to enable her to travel overseas and study the laboratory diagnosis of arbovirus infections at various centres in South-East Asia, the United States, United Kingdom and Scandinavia. She left in early June and will return to Brisbane at the end of August.

Staff members have presented papers at meetings of professional societies and have been authors or co-authors of a number of scientific papers. Several have also given lectures, talks and tutorials at the University of Queensland, Queensland Institute of Technology, Police College and to a variety of other lay and professional groups.

Visitors to the laboratory included Professor Y. E. Hsia, University of Hawaii School of Medicine, Honolulu; Ms Juliet Hsia, Medical Genetics Services, Shriner's Hospital, Honolulu; Dr Manfred Endies, Department of Genetics, University of Munich, West Germany; Dr Roger Marshall, Department of Veterinary Pathology, Massey University, New Zealand; Dr Y. H. Chong, Department of Human Nutritution, Institute for Medical Research, Kuala Lumpur; Lt. Col. G. E. Eaton, Director of Health Services, Papua New Guinea Defence Force; Major General P. J. Usurup, Officer in Charge, Papua New Guinea Defence Force Health Centre, Taurama, Papua New Guinea; Professor F. Jaubert, Universite' Necker E. M. (Ch.U), Paris, France; Ms Jennifer Kronberg, Department of Human Genetics, University of Witswatersrand, Johannesburg, South Africa; Dr B. Kingscote, Animal Diseases Research Institute, Alberta, Canada.

The laboratory was represented at the following conferences and seminars during the year:

Australian Lipid Standardization Committee Meeting, Melbourne, 27th July, 1983 (Mr J. Savill);
Annual Scientific Meeting—Australian Institute of Medical Laboratory Scientists, Adelaide, 31st August–3rd September, 1983 (Mr J. Cairns);
VIII Australian International Symposium on the Forensic Sciences, Perth, 26th–29th September, 1983 (Dr A. J. Ansford and Mr L. Freney);
Workshop Symposium on the Genetics and Typing of MRSA, Melbourne, 7th October, 1983 (Mrs Y. Cossins);
Annual Scientific Meeting and Scientific Education Seminar, Australian Association of Clinical Biochemists, Sydney 15th–20th October, 1983 (Mr J. Savill and Mr F. Bowling);
Annual Scientific Meeting, Royal College of Pathologists of Australasia, Melbourne, 24th–28th October, 1983 (Dr A. J. Ansford);
Fourth Australian Food Microbiology Conference, Sydney, 26th–28th October, 1983 (Mr B. Gray);
Seminar on Thyroid Function Tests, Sydney 12th–14th December 1983 (Mr R. Partridge);
International Symposium on Automated Haematology, Sydney, 15th–16th February, 1984 (Dr A. J. Ansford and Mr A. B. Findlay);
Annual Scientific Meeting, Australasian Division, International Academy of Pathology, Sydney 5th–6th May, 1984 (Dr A. J. Ansford);
Annual Scientific Meeting, Australian Society of Microbiology, Sydney, 14th–18th May, 1984 (Mr N. Stallman and Mr L. Hiley);
Annual Scientific Meeting, Human Genetics Society of Australasia, Melbourne, 15th–20th May, 1984 (Mrs J. Bell and Mr F. Bowling).

SEROLOGY

Introduction

There has been a 10 per cent increase in serological investigations during the year. This is mainly due to the widespread epidemic of epidemic polyarthritis which has occurred in Eastern Australia. Six hundred and one cases were diagnosed in Queensland and 616 were diagnosed from New South Wales. Eighteen cases of dengue fever have also been diagnosed in Queensland since April this year.

Q Fever

During the year, 124 cases of recent Q fever infection were diagnosed, a decrease of 34 on last year. Of these, 120 were from Queensland and four from New South Wales. A four-fold rise in antibody titre in paired sera or a titre of 1:64 or greater in a single specimen was regarded as diagnostic. The geographical distribution and occupations of the patients are set out in Tables 1 and 2.

Three of the Queensland cases were in young children aged between 10 months and 4 years. Two were unrelated and were from the Ipswich area. The other was from Cairns. One case from Ipswich had a history of fever but neither had a history of contact with cattle. The four-year-old from Cairns had a history of fever and a palpable spleen and had had contact with animals on a property.

During the year, five patients showed elevated titres to Q Phase 2 antigen and a titre of at least 1:128 to Q Phase 1 antigen. One of these had a history of endocarditis and three presented mainly with a history of fever and liver involvement. Only one was known to be a meatworker and another had known contact with animals.

Brucellosis

Brucellosis was diagnosed in two patients on the basis of a four-fold rise in titre in paired sera or a titre of 1:128 or greater in a single specimen using the agglutination test. The geographical distribution of the cases is shown in Table 3.

One case of chronic brucellosis was diagnosed during the year on the basis of a positive brucella antihumanglobulin test in conjunction with a negative agglutination test and a low titre in the complement fixation text.

Typhus

Two probable cases of tick typhus were diagnosed on the basis of a titre of 1:128 or greater in a single specimen using the agglutination test with *Proteus* OX19 antigen. Complement fixation tests using *Rickettsia australis* antigen were negative in both cases.

Twelve probable cases of scrub typhus were diagnosed on the basis of a four-fold rise in titre in paired specimens or a titre of 1:128 or greater in a single specimen using the agglutination test with *Proteus* OXK antigen. Ten of these patients were from Northern Queensland, one was from interstate and the other was from overseas.

Seven of the local cases had typhus-like symptoms whilst another had been recently camping in the bush. The interstate patient became ill after a trip to Queensland. A further case of scrub typhus was diagnosed on the basis of the isolation of *Rickettsia tsutsugamushi* from a blood specimen submitted from a patient from North Queensland.

Mycoplasma

On the basis of a four-fold rise in titre in paired specimens or a titre of 1:128 or greater in a single specimen and a consistent clinical history, 317 cases of *Mycoplasma pneumoniae* infection were identified. Of these cases, 313 occurred in Queensland, three in New South Wales and one in the Solomon Islands. Almost half of these infections were in children under the age of 15 years.

Measles Sub-Acute Sclerosing Panencephalitis

Serum and cerebrospinal fluid specimens from a six-year-old boy with a history suggestive of SSPE were submitted from Papua New Guinea. Both specimens showed the presence of measles antibodies.

Legionnaires' Disease

One case of Legionnaires' disease was diagnosed on the basis of a greater than four-fold rise in titre in paired specimens in the fluorescent antibody test. The patient presented with a history of fever, anorexia and pulmonary involvement. Another possible case of Legionnaires' disease was diagnosed on the basis of a titre of 1:256 in the fluorescent antibody test. This patient presented after more than one month with a history of fever, myalgia and pulmonary involvement.

Typhoid Fever

Two possible cases of typhoid fever were diagnosed on the basis of titres of 1:128 or greater in the agglutination test for *Salmonella typhi* (H) and (O) antigens. Both of these patients were from outside Australia and presented with a history of fever.

Syphilis Serology

The automated reagin test (ART) is used for screening all serum specimens. Reactive sera are then tested quantitatively using the ART and the *Treponema pallidum* haemagglutination test (TPHA). The fluorescent treponemal antibody absorption test (FTA-ABS) is no longer done on all ART reactive sera. It is only done if specifically requested or if the patient's history is suggestive of primary syphilis.

Mycotic and Parasitic Diseases

Serological tests for cryptococcosis, toxoplasmosis, hydatidosis and amoebiasis are performed in this laboratory. Serological tests for other mycotic diseases including histoplasmosis, coccidioidomycosis and blastomycosis and parasitic diseases including strongyloidiasis, toxocariasis, filariasis and schistosomiasis are not available in Queensland. Serum samples for most of these diseases are sent to CDC, Atlanta, Georgia.

Three patients were found to have serological evidence of hydatid disease on the basis of a titre of 1:320 in the haemagglutination test; none of these showed any antibodies in the complement fixation test. Two presented with a history of fever, liver disease and vomiting; there was no information for the other patient.

Serological evidence of invasive amoebiasis was found in three patients on the basis of a titre of 1:128 or greater in the haemagglutination test. One patient was a resident of Papua New Guinea and another lived in Fiji. The third was a Vietnamese from the Wacol Migrant Centre, Brisbane. Two had a history of liver disease.

Meatworkers Survey

A prospective collaborative study with the Department of Social and Preventive Medicine of the University of Queensland and the Workers Compensation Board which commenced in 1982 is continuing.

Abattoir workers are known to be at risk for zoonotic (animal-borne) diseases, the most common of which are Q fever, leptospirosis and brucellosis. The purpose of the study is to determine the incidence of these infections in workers at risk.

Approximately 6 000 meatworkers from 26 major meatworks throughout Queensland have been tested so far. Twenty-eight per cent showed serological evidence of past infection, predominantly with Q fever. Brucellosis no longer appears to be a major problem.

The second phase of the project commenced this year. The purpose of this part of the study is to determine the most effective public health measures that can be readily implemented.

All sera collected is stored for further investigation if required.

Leptospirosis

The number of cases with serological evidence of recent leptospiral infection detected in Queensland was 127, an increase of 50 on last year. There were also 16 cases from New South Wales and 30 from the Pacific Islands. The Fiji Ministry of Health submitted 385 sera and 57 were found to have a titre of at least 1:50. Serological evidence of recent infection was found in 29. The geographical distribution and the serogroup of the infecting leptospires of these cases are set out in Table 4.

The occupational distribution of the cases is set out in Table 5.

Arbovirus Serology

During the year, 1 292 cases of epidemic polyarthritis caused by Ross River virus were diagnosed, an increase of 891 on last year. Of these, 601 were from Queensland, an increase of 215 on last year and 616 were from New South Wales, an increase of 580 on last year. Thirty-six cases were also diagnosed from Victoria, 29 from Northern Territory and seven from the Australian Capital Territory. The diagnosis of the majority of these cases was based on the demonstration of the presence of Ross River specific IgM antibody enzyme-linked immunosorbent assay (ELISA) method. Those sera which were unsuitable for ELISA testing were tested by sucrose density gradient ultracentrifugation for Ross River specific IgM antibody. The geographical distribution of the cases is shown in Table 6.

Of the 29 cases of dengue diagnosed in the laboratory during the year, 19 were Queenslanders who had not been out of the State. Of these, 16 were from Townsville, two from Cairns and one from Ipswich. Eighteen cases occurred between April and June. The other which occurred in October 1983 was a 78-year-old man from Ipswich who presented with arthritis, thrombocytopaenia, headache, lethargy and a tight chest.

Eighteen were dengue 1 and the other, a 69-year-old female from Cairns, was dengue 2.

Dengue 1 specific IgM antibodies were detected in three members of a Townsville family. The first presented with dengue-like symptoms at the end of April, whilst the other two had onset dates in June.

Nine cases had a history of recent overseas travel. Of these, three had visited Sri Lanka, two Indonesia and one to each of Fiji, Thailand, Philippines and Papua New Guinea.

One case came from New South Wales and no clinical details were supplied.

Ten Kunjin virus infections were diagnosed. Three were from the Cairns region and one each from Goondiwindi, Roma and Toowoomba. A case of Kunjin encephalitis was diagnosed in a patient from Victoria by a rise in haemagglutination inhibition (HI) titre and confirmed by sucrose density gradient ultracentrifugation for Kunjin specific IgM antibody. The three other cases were from New South Wales. Most presented with arthropathy and myopathy.

There were also 11 cases of unspecified Group B arbovirus infections. These specimens showed cross-reactivity with a wide range of Group B arbovirus antigens by the HI method. The infecting agent could not be determined by using the complement fixation (CF) test. Three cases presented with encephalitic symptoms, one each from Papua New Guinea, Moura and Roma. Five cases from Townsville and one from Rockhampton had symptoms of fever and arthralgia. Four of the Townsville cases also had a rash and lymphadenopathy.

The laboratory is making all arbovirus antigens and antisera for routine testing. Tissue culture antigens as required for the Ross River ELISA method have been prepared with the assistance of Dr J. Aaskov of the Queensland Institute of Medical Research.

LEPTOSPIROSIS REFERENCE LABORATORY

Cultures from the reference collection and rabbit antisera to reference strains were sent on request to institutions in Queensland and other Australian States, India, Jordan, New Caledonia, New Zealand, Papua New Guinea and Thailand. Technical information was supplied to institutions in Queensland and other Australian States, Brazil, Fiji and Papua New Guinea.

Dr B. Kingscote, Animal Diseases Research Institute, Alberta, Canada and Dr R. Marshall, Massey University, New Zealand, visited the laboratory.

Of the seven isolates received during 1982–83 which remained to be serovared, one was identified as serovar *tarassovi* and three as serovar *hardjo*. Tests conducted on the other three isolates showed that they belonged to the species *Leptospira biflexa*.

A further 24 isolates were received from the Department of Agriculture, Adelaide (2); Regional Veterinary Laboratory, Glenfield (4); Regional Veterinary Laboratory, Bairnsdale (3); Veterinary Research Institute, Parkville (1); Innisfail Hospital (1); Animal Health Laboratory, Department of Agriculture, South Perth (1); the Ministry of Health, Fiji (4); Universiti Pertanian Malaysia, Selangor, Malaysia (5); Institute of Medical Research, Kuala Lumpur, Malaysia (3). Seven of these isolates have been identified as serovar *hardjo* (4); serovar *pomona* (2); and serovar *copenhageni* (1).

Twenty-four of the isolates submitted by the WHO/FAO Collaborating Center for the Epidemiology of Leptospirosis, Atlanta, U.S.A., during 1981–82 for confirmation as new serovars are still being investigated.

Two isolates received from the Collaborating Center in Atlanta and one from the WHO/FAO Collaborating Centre for Reference and Research on Leptospirosis, Amsterdam, Netherlands, in 1982–83 for confirmation as new serovars are still being investigated.

The draft of a catalogue of published serovars which Mr N. D. Stallman, Secretary of the Subcommittee on the Taxonomy of *Leptospira* submitted to the subcommittee meeting held in Boston in 1982 has not been finalized. Several problems relating to the valid publication of a number of serovars remain to be resolved. It is expected that a final draft of the catalogue will be completed prior to the next meeting to be held in Manchester in 1986.

Dr R. Marshall, Massey University, New Zealand, on his visit in August-September 1983, compared an alternative method which he has described for the identification of strains of *Leptospira* based on Restriction Endonuclease DNA Analysis (BRENDA) with the classical agglutinin absorption method used in this laboratory. Initially all strains in the tarassovi serogroup were to be compared. The comparison is continuing.

VIROLOGY

Virus Isolations

The laboratory received 12 473 specimens for virus isolation and a total of 3 281 viruses were detected in 3 129 patients (Table 7).

The clinical syndromes with which these viruses were associated are shown in Table 8.

Influenza viruses were isolated during the period July to September 1983. They were all type A with 11 isolates of the H_1N_1 subtype and 38 of the H_3N_2 subtype.

There was reduced respiratory syncytial virus activity compared with the previous year. The peak occurred in July with few isolations between October and the following April, and then a slow seasonal rise in May and June.

The fluorescent antibody technique used for early detection of respiratory syncytial virus in nasopharyngeal aspirates has now been extended to include adenovirus, parainfluenza virus types 1 and 3 and influenza virus types A and B.

There were significantly fewer enterovirus isolations compared with last year. Enchovirus 9 and Coxsackievirus B2 were the most frequently isolated types.

Herpes simplex virus isolations showed a 30 per cent increase on the previous year, making it by far the most frequently diagnosed viral infection.

All herpes isolates were typed using an ELISA test. In the case of patients presenting with genital herpes, 20.4 per cent of isolates from females compared with only 7.5 per cent of isolates from males were type 1. This marked difference in the incidence of genital herpes types between females and males has been well documented by other workers.

Clostridium difficile Toxin

Clostridium difficile toxin was detected in 117 of the 1 306 faecal samples assayed in tissue culture. Positive tests were confirmed using neutralization with *Cl. sordellii* antitoxin.

Chlamydia trachomatis Isolation

The isolation of *Chlamydia trachomatis* in Buffalo green monkey cells continued and 4 347 specimens mostly of genital origin were tested. The organism was isolated from 558 genital specimens (255 male and 303 female) and nine eye scrapings (seven neonates and two adults).

In association with the University of Queensland Department of Veterinary Anatomy, a study was conducted throughout the year into the incidence of chlamydia disease in the koala (*Phascolarctus cinereus*). *Chlamydia psittaci* was isolated from both free-ranging and captive animals and associated with a number of disease syndromes including keratoconjunctivitis, rhinitis, urinary incontinence (''dirty tail'' disease) and reproductive tract pathology. Female koalas suffer severe infertility problems and the relevance of the organism in the aetiology of this syndrome is still under investigation.

Hepatitis Serology

A total of 9 131 sera were tested for hepatitis B surface antigen and 456 were found to be positive (Table 9). There were marked increases in the number of antigen positive sera in the hepatitis patients and antenatal groups due to the fact that more patients from high risk areas were tested. Of the former group, 51 come from Thursday Island while of the latter, 20 came from Thursday Island and 12 from the Mount Isa area.

Tests for e antigen were performed on 355 of surface antigen positive sera from Queensland and 151 were positive for e antigen.

All negative sera except those from renal and antenatal patients were tested for core and surface antibodies. Of the 5 254 negative sera tested, 1 349 had core and/or surface antibody (Table 10). Note the high levels of antibody positives in the drug abuse and Solomon Islands groups.

When hepatitis B vaccine became available, serological testing was commenced to identify risk groups and to determine the need for vaccination. The marker selected was core antibody. Those individuals whose serum is positive for the marker are considered most likely to be immune and not to require vaccination. A high incidence of positivity for the antibody in any group indicates a high risk. Those tested included certain hospital and laboratory staff and selected groups of patients, including renal patients and patients from the Sexually Transmitted Diseases Clinic who are already known to be at high risk. Of 1 782 individuals tested, 140 had core antibody. Ninety of these were from high risk areas (Aboriginal Health Service, Bamaga and Thursday Island hospitals and the Special Clinic). When these groups are excluded the immunity rate is reduced to 50 of 1 572 (approximately 3 per cent).

Hepatitis A IgM antibody tests were performed on the sera of 1 574 patients of which 140 were positive. Of these, 23 were from the Solomon Islands.

BACTERIOLOGY

This year 157 023 microbiological tests have been carried out which represents a decrease of one percent in the workload. The number of clinical specimens received has decreased considerably since the introduction of Medicare in February, but this has been balanced with an increase in the number of food investigations. These tests require considerably more media and have, on occasions strained the resources of the media room.

Cholera

No *Vibrio cholerae* serogroup 01 have been isolated from faecal specimens this year. However, the cholera vibrio was isolated by a southern laboratory from the stool of a person who contracted diarrhoeae while on a camping holiday in North Queensland. Further details of this incident are given in the report from the Division of Environmental and Occupational Health.

The three-year river monitoring programme begun in January 1981 concluded this year after being extended to 30th April. Samples were tested each month from the Logan, Albert, Brisbane and Mary Rivers. One isolation of *V. cholerae* biotype *eltor* serotype Inaba was made from Christmas Creek, a tributary of the Logan River. A second isolate of *V. cholerae* of the same biotype and serotype from Christmas Creek was received from Dr G. Lawrence, Queensland Institute of Medical Research, for biotyping and confirmation. Both strains produced enterotoxin when tested by an ELISA assay.

Surveillance of water supply intakes throughout Queensland continued, but no isolations of *V. cholerae* were made.

Toxigenicity studies were carried out by Dr R. Luke, Latrobe University, Melbourne.

Enteropathogens

There were 65 isolations of Salmonella from faecal specimens and 123 isolations from food and environmental sources (Table 11). *S. typhi* was not isolated. Bacterial enteric pathogens recovered from faecal specimens are listed in Table 12. This year *Yersinia enterocolitica* was recovered from three patients.

Random testing of dried instant Chinese meals manufactured in Queensland revealed the presence of Salmonella in a number of products of one factory. Further sampling showed that Salmonellae were distributed over a variety of products and were not restricted to a single batch date. A total of 294 samples, comprising instant meals, ingredients and environmental material from the factory were tested and 41 strains of Salmonella were recovered. The Salmonella isolates were restricted to three serotypes. Several items were contaminated with two serotypes and all three serotypes were recovered from one item.

A survey of leafy green vegetables that may be eaten raw was begun last year and continued this year in extended form. Samples are collected once a month from eight market gardens near Brisbane, Toowoomba, Nambour, Bundaberg, Rockhampton, Townsville and Cairns. The vegetables (lettuce, celery and cabbage) and the water used to irrigate the crop are tested for the presence of *V. cholerae* and Salmonella sp. A total of 373 lettuce heads, 35 bunches of celergy, 10 cabbages and 90 waters have been tested. Salmonella have been recovered from 13 lettuce and 26 water samples. All samples were negative for *V. cholerae*.

A manufacturer of home-brewed beer kits reported that he had received reports that the dried active brewing yeasts, imported from England for these kits, were contaminated with Salmonella. Fifty of the sachets were tested and 10 were found to be contaminated with Salmonella.

All isolates of Salmonella were sent to the Salmonella Reference Laboratory, Institute of Medical and Veterinary Science in Adelaide for serotyping.

Neisseria

The laboratory continues to participate in a national programme recording minimal inhibitory concentration (MIC) of *Neisseria gonorrhoeae* strains to penicillin. *N. gonorrhoeae* was isolated from 548 specimens and a further 439 isolates were referred by hospital and private laboratories for MIC tests to penicillin. These MIC results were forwarded to the collecting centre of the *N. gonorrhoeae* surveillance programme. Seventy-one of these strains produced β-lactamase (7.2%) and of these 30 were traced to overseas contacts, four had contact with a person who had just returned from overseas and 18 were from local contacts. Information was not available on 19 cases. This is a 50 per cent increase in the incidence of β-lactamase producing strains in 12 months (Table 13).

There were 60 isolations of *N. gonorrhoeae* from pharyngeal swabs (11 from males and 49 from females) and 27 from rectal swabs (23 from males and four from females).

Neisseria meningitidis was isolated from genital sites on six occasions (five from males and one from female). Isolations were made from 325 throat swabs (58 males and 267 females) and from 3 male rectal swabs while screening for *N. gonorrhoeae*.

No isolation was made from cerebrospinal fluid, but one culture of *N. meningitidis* from cerebrospinal fluid was received for confirmation.

Diptheria

There were no isolations of toxigenic *Corynebacterium diptheriae* and none of the cultures submitted to the laboratory for toxin testing was toxigenic.

Melioidosis

One isolate of *Pseudomonas pseudomallei* was referred to the laboratory this year from the Australian Health Laboratory, Cairns. It had been isolated from an ear swab from a 3-year-old male child from Bamaga. The child had a history of Shigella dysentery followed by intermittent spiking fever, a discharging ear with a perforated drum and a swollen tender foot. No pus was obtained on exploration.

Culture Identifications

The laboratory receives cultures for confirmation or complete identification from a number of laboratories throughout Queensland. The majority of these are coryneform bacteria isolated from sites on the skin or from blood cultures. Other cultures received include a range of gram positive bacteria, gram negative enteric bacteria and anaerobic bacteria.

One culture received from the Australian Health Laboratory, Townsville, for identification was of particular interest. The bacterium was isolated from a lesion on the right hand of a meatworker who handled hides. The gram positive bacterium was *Dermatophilus congolensis*, a rare pathogen of man and the causative organism of exudative dermatitis in cattle and lumpy wool in sheep.

Prosecution

This year saw the first successful prosecution of a supplier of raw goat milk which did not conform to the microbiological standard prescribed by the Food Standards Regulations, 1982.

Food Surveillance

Two incidents involving Salmonella in food have been mentioned under the enteropathogen heading.

One other investigation was part of a nationwide search. It was reported from England that cases of severe staphylococcal food poisoning had following consumption of Italian produced lasagne. Samples of the product tested in Europe had been found to contain enterotoxin producing *Staphylococcus aureus*. Some of this lasagne had been imported into Australia and marked under a local brand name. Seventy-five samples were tested and 12 were found to be contaminated with enterotoxin producing *S. aureus* of the same phage type as the isolations in England.

MYCOLOGY AND PARASITOLOGY

Pathogenic fungi isolated or detected during the year and parasites found in clinical specimens are listed in Tables 14 and 15.

MYCOBACTERIOLOGY

Introdution

The tuberculosis section reported on a total of 22 619 specimens during the year. The actual number received is much greater than 22 619 due to the practice of combining multiple specimens from the one patient. Seven sputa were examined for asbestos bodies and a total of 98 cultures were received for identification and/or sensitivity testing.

Demonstration material such as slides and cultures was supplied to the Queensland Institute of Technology and the University of Queensland.

Nursing sisters and a pathology registrar visited the laboratory as observers and received instruction in the bacteriological aspects of tuberculosis.

Data for papers and conferences has been supplied to colleagues in other institutions. The Gippsland Pathology Service requested details of isolates of *Mycobacterium ulcerans* and data showing drug resistance in isolates of *M. tuberculosis* from South-East Asian patients (Queensland and Northern Territory) was prepared for the Brisbane Chest Clinic. Of 56 isolates tested from the Asian patients. 10 (17.8%) were resistant to streptomycin and 11 (19.6%) to isoniazid compared with 2.4 per cent and 2.6 per cent respectively for Queensland patients.

Laboratory figures reflect the increasing use of bronchoscopy in the investigation of pulmonary disease. In 1980–81, 618 specimens collected by bronchoscopy were received; in 1983–84 the figure increased to 912. Two instances of cross-contamination of specimens due to inadequate between-use decontamination of instruments have been identified. Relevant literature has been distributed in an attempt to limit such occurrences.

Diagnostic Tests

Mycobacterium tuberculosis was isolated from material submitted from 90 patients including 22 from the Northern Territory. Eleven isolates were from non-pulmonary sites, namely: lymph nodes (4), genito-urinary (2), chest wall (1), spinal abscesses (2), elbow (1) and hip (1). One patient provided isolates from both elbow tissue and gastric aspirates and a patient with miliary infection had positive bone marrow and bronchial washings.

Mycobacterium bovis was isolated from pulmonary material from six patients, three of whom were from the Northern Territory. The BCG strain of *M. bovis* was isolated from a female child with complications following BCG vaccination.

Atypical mycobacteria isolated from 192 persons were fully identified. Nocardia/Streptomyces species were isolated from 14 persons. Only multiple tube isolates are identified to species level (Table 16).

Organisms identified as belonging to the *M. avium-M. intracellulare-M. scrofulaceum* (MAIS) complex were grown from specimens submitted from 143 persons, 58 of whom were carry-over cases from 1982–83. One of the carry-over cases involved a soft tissue infection of the wrist.

On the basis of bacteriology findings, 27 new cases of disease due to MAIS organisms have been identified. In addition to 21 cases of pulmonary infection, serovar 11 was isolated from a leg ulcer in a male, a non-typable strain from a lymph node from an adult male and serovar one (two cases), serovar 15 and serovar 16 (one case each) from lymph nodes of children.

Results of serotyping are shown in Table 17. Isolates identified as MAIS complex are serotyped if there is a possibility that they are pathogens. A total of 170 isolates from 105 patients were tested. Serovars 1, 14, 16 and 42 were encountered most frequently. Several patients were found to be excreting two or three different types.

Mycobacterium asiaticum, a newly recognized pathogen, was isolated from specimens from four persons. One patient, an elderly male, is persistently positive and has been previously reported. A further adult male, found positive for the first time this year, had repeated positive tests and is receiving chemotherapy.

Mycobacterium fortuitum was isolated from specimens from 15 persons, one of whom is a carry-over case from 1982–83. In three patients with sputum isolates, the organism was considered to be clinically significant. There were seven isolations from non-pulmonary infections, viz.: inguinal lymph nodes (3), leg wounds (2), injection site on buttock (1) and sternal sinus following open heart surgery (1).

Mycobacterium chelonae was isolated from specimens from 14 persons, five of whom were carry-over pulmonary cases from 1982–83. One new case of pulmonary disease was identified. Three isolates were from non-pulmonary sites, namely abscesses (2) and granuloma on foot (1). The other five were casual isolates considered to be of no clinical significance.

Mycobacterium smegmatis, a rapid grower which is rarely seen as a pathogen, was grown from a wound sinus which developed on the chin of a female after she had been kicked by a horse.

Mycobacterium marinum was isolated from specimens from four patients. All had infections on limbs—wrist (2) wrist and elbow (1) and knee (1).

Fourteen isolates were identified as belonging to either *Nocardia* or *Streptomyces* genera. In most cases full speciation was possible. The laboratory has recently expanded the range of tests employed for identification of *Nocardia* and *Streptomyces* and is receiving an increasing number of isolates from other institutions. Eight of the isolates appeared to be disease-associated; four were from pulmonary specimens and the others were isolated from a chest wall abscess (1), sinus (2) and patellar lesion (1).

Mycobacterium kansasii, *M. haemophilum* and *M. ulcerans* were not encountered during the year.

Sensitivity Testing

A total of 144 strains belonging to *M. tuberculosis*, *M. bovis* or *M. bovis* BCG were tested for susceptibility to streptomycin, isoniazid, ethambutol and rifampicin. This figure includes 45 cultures referred from Papua New Guinea.

Sixty-one isolates of *M. tuberculosis* were from patients who had never received anti-tuberculosis chemotherapy. Drug resistance (i.e. primary resistance) was found in one strain only; it was resistant to streptomycin.

Forty-two isolates identified as atypical mycobacterial species were tested against eight anti-mycobacterial compounds. Routine sensitivity tests are of little value for directing therapy of infections with atypical mycobacteria, but the recent finding that some common antibacterial agents have use in infections with rapid-growers and *M. marinum* has brought an increase in the demand for disc sensitivity. Thirty-seven strains of mycobacteria and nocardia were tested in this way against a range of tetracyclines, aminoglycosides, sulpha compounds and cephalosporins.

Special Projects

(i) The testing of disinfectants for efficacy against *M. tuberculosis* now forms a significant portion of the laboratory's workload. The Therapeutic Goods Act (TGA) test required modification to enable the assessment of efficacy against mycobacteria. The modified version is now undergoing evaluation. All disinfectants under consideration for use in hospitals and laboratories in the State are now submitted for testing against mycobacteria.

(ii) Participation is continuing in two international cooperative studies being conducted by the International Working Group on Mycobacterial Taxonomy, that is, the open-ended study of slowly-growing mycobacteria and the *M. fortuitum-M. chelonae* study. To date, 177 slowly-growing strains and 80 *M. fortuitum-M. chelonae* have been tested by a range of biochemical, serological and chromatographic techniques.

(iii) A new commercially available Lowenstein-Jensen base was submitted as a cheaper alternative to the one in current use. The quality of the new medium was tested with 100 strains belonging to 25 species. No discernable difference in quality could be found.

(iv) Efforts to enhance the laboratory's role in selection of thereapy for infections with MAIS complex are continuing. Known disease-associated strains were tested against serial dilutions of drug in Mueller-Hinton agar with Oleate-Albumin-Dextrose enrichment. The following compounds were tested alone and in various combinations—minocycline, co-trimoxazole, rifampicin, ethambutol, cycloserine and ethionamide. With cycloserine and ethionamide some strains gave minimal inhibitory concentrations below the attainable serum level of the drug, but results with other compounds were too high for clinical application. Values obtained with the combination cycloserine, minocycline, co-trimoxazole, rifampicin, ethambutol and the combination ethionamide, minocycline, co-trimoxazole, rifampicin, ethambutol suggested possible clinical efficacy.

Reference Laboratory

Cultures and/or antisera were supplied on request to Pasteur Institute, Paris, France; V.A. Medical Center, West Haven, U.S.A. and the Animal Health Reference Laboratory, Upper Hutt, New Zealand.

Cultures of mycobacteria for identification and investigation were received from Veterinary Research Institute, Brisbane; Institute of Clinical Pathology and Medical Research, Westmead, Sydney; Veterinary Research Institute, Melbourne; Heidelberg Hospital, Melbourne; Gippsland Pathology Service, Victoria; Institute of Medical and Veterinary Science, Adelaide; University Hospital of Wales, Cardiff, U.K. Type cultures have been obtained from the National Chubu Hospital, Obu, Japan and incorporated in the culture collection.

Occasional specimens of veterinary origin are referred for examination. During the year, isolates were received from a granulomatous lesion on a horse (MAIS complex), from an abdominal granuloma in a cat (*M. smegmatis*), from lesions in tropical fish (*M. fortuitum*, *M. gordonae* and *M. marinum*) and from a mesenteric lymph node in an albino wallaby (MAIS serovar 16).

HAEMATOLOGY

The total number of tests performed in the haematology section remained relatively constant but the distribution of tests has changed. There has been a reduction of about 20 per cent in the number of requests received for routine tests such as full blood counts, erythrocyte sedimentation rates and tests for infectious mononucleosis. On the other hand, requests for pregnancy tests have continued to increase. Considerable time has been spent this year is assessing new test kits because new technology is being incorporated into these assays.

Malaria surveys in the Torres Strait have been the major factor causing a 241 per cent increase in the number of requests for malaria examination. These tests are very time consuming and difficulty is being experienced in keeping up with this heavy workload. Malarial parasites were detected in 171 of the 4 247 slides received for diagnosis. These included 66 cases of *Plasmodium vivax*, 90 of *P. falciparum*, one of *P. ovale* and one of *P. malariae*, 10 indeterminate and three mixed *P. vivax/P. falciparum*. A further 118 positive slides were received from other laboratories for review prior to referral to the Commonwealth Institute of Health in Sydney.

This year 301 samples were examined for the presence of an abnormal haemoglobin. This resulted in the detection of 39 cases of heterozygous beta-thalassaemia, 13 of alpha-thalassaemia, two of Hb Lepore, two heterozygous Hb-E, seven Hb-S trait and one each of Hb Koln and homozygous Hb-E. Two cases of glucose-6-phosphate dehydrogenase deficiency were diagnosed and three of pyruvate kinase deficiency.

A total of 10 844 patients attended the laboratory for specimen collection while another 902 had their specimens taken by laboratory staff visiting various outside government institutions.

BIOCHEMISTRY

The introduction of a partially automated system based on Fluorescence Polarisation Immunossay has reduced the time taken for screening for thyroid dysfunction. It is a non-radioimmunoassay technique and further modifications of other procedures to non-radioisotope techniques is contemplated.

Studies suggest that many persons who die from coronary artery disease have a total cholesterol which is within normal limits. Of the other major biochemical risk factors for artherosclerosis, it is believed that apolipoproteins may play a major role. Therefore, it is proposed to include serum apolipoproteins in the current lipid profile which includes total cholesterol, HDL-cholesterol/cholesterol ratio and triglycerides.

CYTOGENETICS

The laboratory analysed 355 amniotic fluid samples, 341 blood samples, 6 bone marrows and carried out 53 tests for the X_q27 fragile site. These totals represent a 12 per cent increase in cytogenetic referrals on the numbers for the previous year. The abnormalities detected are listed in Table 18.

The fragile site test for X-linked mental retardation is now being requested routinely and is done on all mentally retarded males. One positive case was found this year.

There is still a demand on the laboratory to provide a prenatal diagnostic service for younger patients. Since October 1982 the minimum age for prenatal cytogenetic study on the basis of maternal age has been 37 years. Other criteria for performing these studies are a previous child or parent with a chromosome abnormality or if the mother is known to be a carrier of an X-linked disease.

The State-wide register of chromosome abnormalities is being maintained.

Staff members continue to be involved in teaching basic cytogenetics to medical students and to students at the Queensland Institute of Technology.

FORENSIC BIOLOGY

The laboratory provides forensic services for Queensland and for the Papua New Guinea Constabulary. Scientists from the laboratory attend court and give evidence in criminal cases in Brisbane and throughout Queensland. Specialized assistance at scenes of major crimes is also provided to the police from time to time.

There has been a further increase in both the range of tests and exhibits submitted for analysis following the trend of the past 10 years or so.

Recent approval for extra staffing in this section should help reduce the backlog of work which has developed over the past few years.

NEONATAL SCREENING UNIT

Newborn population screening for hyperphenylalaninaemia, congenital hypothyroidism, galactosaemia and cystic fibrosis was carried out on 41 500 infant samples during the year.

Two infants were found to have phenylketonuria and 19 had total permanent hypothyroidism. Eighteen gave positive screening tests for cystic fibrosis. None was detected with severe transferase deficiency galactosaemia, but 10 were detected with partial transferase deficiency. These are being monitored at a special metabolic clinic. The clinical significance of this abnormality is not fully understood.

The screening procedure for congenital hypothyroidism is to be changed to a primary thyrotrophin screen. Developmental work is proceeding on this new assay. The new procedure is more cost-effective than the thyroxine test currently in use.

COUNTRY PATHOLOGY SECTION

New laboratory facilities were opened at the Ipswich and Longreach hospitals. Hospital redevelopments including new accommodation for pathology are being planned for the Nambour, Bundaberg and Gympie hospitals.

The annual country hospital scientists meeting was held in July 1983 in Brisbane. The Management Services Branch of the Health Department conducted a two-day management seminar which was aimed at the small hospital laboratory situation. Instrument maintenance workshops were conducted by the State Health Laboratory staff. Mr Keith Harrison of the Royal Women's Hospital introduced the scientists to the Kleihauer technique used to monitor Anti-D prophylaxis in post-natal patients. The assistance of those mentioned and the Queensland Institute of Technology for providing laboratory facilities is appreciated. The meeting is held prior to the State Australian Institute of Medical Laboratory Scientists conference each year. A staff member from each country laboratory is sponsored to attend both meetings. A number of country scientists have also taken part in in-service training programmes conducted at the metropolitan hospital and larger country hospital laboratories.

Both the Southport and Ipswich laboratories have installed random access analysers to cope with the heavy biochemical workloads. Automatic blood gas analysers that can be utilized by medical staff are now in use at Southport, Ipswich, Maryborough and Mount Isa. This has reduced the need to call in laboratory staff when blood gas analyses are required out of hours.

The section has gained a laboratory technician whose responsibility is the organization of maintenance and repair of country laboratory equipment. Service/maintenance contracts have been negotiated for the centrifugal and electrolyte analysers in the country hospitals. One contract covering equipment in a number of hospitals has resulted in a more economically viable service.

The quality control programmes for biochemistry and haematology continue to be effective. It is planned to revive the microbiology programme and to commence a blood bank programme in the coming year.

The section has continued to co-operate with the State Stores Board in arranging contracts for laboratory reagents and equipment. The section is dependent upon the resource of the State Health Laboratory, Pathology Departments of Royal Brisbane and Princess Alexandra Hospitals, and Department of Medical Laboratory Sciences of the Queensland Institute of Technology. Appreciation is expressed to the staff of these institutions for their continuing support of the country hospital scientists. The coordinator and technician responsible for instrument maintenance have visited each of the 18 country laboratories at least once during the year.

WOLSTON PARK LABORATORY

As in past years, the number of tests performed in this branch of the Division has remained relatively constant.

The project on assessing transketolase variants is continuing.

Small outbreaks of shigellosis, salmonellosis and parasitic diseases continue to be a problem, and a variety of other medical conditions is seen.

INSTITUTE OF FORENSIC PATHOLOGY

During the year, 1 131 coronial autopsies were performed representing a slight decrease on the previous year. The rotating registrar training programme continues.

Staff pathologists went to country areas on 44 occasions to perform 54 autopsies. As in previous years, the majority of these were cases of homicide or suspected homicide and 10 were victims of five aircraft accidents.

Sixteen autopsies were conducted at the Institute on the victims of a further four aircraft accidents. These included two RAAF pilots whose Mirage jets collided near Charters Towers and 12 victims from the crash of a Beechcraft Super Kingair near Adavale.

A pathologist visited Adavale to supervise the removal of the bodies from the wreckage and their transport back to Brisbane. Despite the widely varied background of the victims and the severe nature of their injuries, no problems were encountered with respect to identification.

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TABLE 1
GEOGRAPHICAL DISTRIBUTION OF Q FEVER CASES

District	Number
Queensland—	
Metropolitan	18
Moreton	35
Maryborough	4
Rockhampton	8
Mackay	3
Townsville	14
Cairns	13
Darling Downs	17
Roma	4
North West	1
Central West	3
Total 1983–84	120
Total 1982–83	140
New South Wales—	
Northern Rivers	3
New England	1
Total 1983–84	4
Total 1982–83	18
GRAND TOTAL	124

TABLE 2
OCCUPATIONAL DISTRIBUTION OF Q FEVER CASES

Occupation	Number
Meat Industry	58
Dairy Industry	7
Other	20
Unspecified	39
Total	124

TABLE 3
BRUCELLOSIS INFECTIONS ON SEROLOGICAL EVIDENCE

District	Number
Queensland—	
Metropolitan	2
Mackay	1
Total 1983–84	3
Total 1982–83	3

TABLE 4
GEOGRAPHICAL DISTRIBUTION AND SEROGROUP OF INFECTING LEPTOSPIRES IN 175 INFECTIONS

Serogroup	Number
Coastal Area of Queensland, North of Rockhampton—	
Australis	8
Calledoni	1
Cynopteri	2
Grippotyphosa	2
Hebdomadis	2
Icterohaemorrhagiae	1
Mini	5
Pomona	2
Pyrogenes	8
Sejroe	11
Tarassovi	2
Total 1983–84	44
Total 1982–83	33
Coastal Area of Queensland, Rockhampton to New South Wales Border—	
Australis	2
Icterohaemorrhagiae	2
Pomona	27
Sejroe	24
Tarassovi	4
Total 1983–84	59
Total 1982–83	29
Darling Downs and Western Queensland—	
Pomona	11
Sejroe	13
Total 1983–84	24
Total 1982–83	15
New South Wales—	
Pomona	8
Sejroe	8
Total 1983–84	16
Total 1982–83	15
Fiji—	
Australis	5
Autumnalis	2
Canicola	5
Icterohaemorrhagiae	17
Total 1983–84	29
Total 1982–83	23
Papua New Guinea—	
Sejroe	1
Total 1983–84	1
Total 1982–83	1
Solomon Islands	
Australis	2
Total 1983–84	2
Total 1982–83	2
GRAND TOTAL 1983–84	175
GRAND TOTAL 1982–83	118

TABLE 5
OCCUPATION DISTRIBUTION OF LEPTOSPIRAL CASES

Occupation	Number
Meat Industry	26
Dairy Industry	15
Sugar Industry	1
Other	14
Unspecified	119
Total 1983–84	175

TABLE 6
GEOGRAPHICAL DISTRIBUTION OF EPIDEMIC POLYARTHRITIS CASES

District	Number
Queensland—	
Metropolitan	113
Moreton	31
Maryborough	17
Rockhampton	42
Mackay	37
Townsville	126
Cairns	116
Darling Downs	57
Roma	23
Central West	5
South West	3
North West	13
Far West	43
Peninsula	15
Total 1983–84	601
Total 1982–83	386
New South Wales—	
Northern Rivers	18
New England	50
Sydney (undefined locality)	254
Newcastle	22
Dubbo Region	60
Wagga Region	212
Total 1983–84	616

TABLE 6—continued

District	Number
Victoria	36
Total 1983–84	36
Northern Territory—	
Darwin	8
Other	21
Total 1983–84	29
Australian Capital Territory	7
Total 1983–84	7
Papua New Guinea	3
Total 1983–84	3
GRAND TOTAL 1983–84	1 292
GRAND TOTAL 1982–83	401

TABLE 7
VIRUS ISOLATIONS FROM CLINICAL CASES

	Number of Patients with Virus Isolates	Number of Viruses Isolated
Influenza A virus	49	50
Parainfluenza virus	104	113
Mumps virus	8	8
Respiratory syncytial virus	121	131
Coxsackievirus A	33	34
Coxsackievirus B	13	15
Echovirus	54	57
Poliovirus	18	21
Other Enteroviruses	68	73
Reovirus	1	1
Rhinovirus	121	137
Adenovirus	176	198
Rotavirus	4	4
Herpes simplex virus	2 215	2 284
Varicella-Zoster virus	16	16
Cytomegalovirus	128	139
	3 129	3 281

TABLE 8
VIRUS ISOLATIONS FROM CLINICAL CASES

Diagnosis	Virus	Number of Cases
Aseptic meningitis	Mumps virus	4
	Coxsackievirus A9	6
	Coxsackievirus B2	3
	Coxsackievirus A	1
	Enchovirus 6	1
	Enchovirus 9	16
	Enchovirus 14	2
	Enchovirus 22	1
	Enterovirus 71	1
	Enterovirus untyped	13
	Andenovirus untyped	3
Respiratory infections	Influenza A/Philippines 2/82 (H_3N_2)	38
	Influenza A/India/6263/80 (H_1N_1)	11
	Parainfluenza virus 1	16
	Parainfluenza virus 2	6
	Parainfluenza virus 3	82
	Respiratory syncytial virus	121
	Rhinovirus	121
	Coxsackievirus A9	1
	Coxsackievirus A untyped	3
	Coxsackievirus B2	2
	Echovirus 9	10
	Enchovirus 22	4
	Other Enchoviruses	3
	Enterovirus untyped	32
	Poliovirus (Sabin strains)	7
	Adenovirus untyped	90
	Herpes simplex virus	26
	Cytomegalovirus	56

TABLE 8—continued
VIRUS ISOLATIONS FROM CLINICAL CASES

Diagnosis	Virus	Number of Cases
Erythematous rash	Coxsackievirus A untyped	1
Vesicular rash	Coxsackievirus A untyped	12
	Enterovirus 71	1
	Enterovirus untyped	2
	Herpes simplex virus	620
	Varicella-Zoster virus	16
Genital ulceration	Herpes simplex virus	1 387
Gingivo-stomatitis	Coxsackievirus A16	2
	Coxsackievirus A untyped	2
	Adenovirus untyped	1
	Herpes simplex virus	155
Conjunctivitis	Adenovirus untyped	13
	Herpes simplex virus	25
Vaginitis	Adenovirus untyped	5
	Cytomegalovirus	33
Neonatal infections	Coxsackievirus B2	2
	Echovirus 6	1
	Echovirus 9	4
	Echovirus 22	1
	Enterovirus untyped	5
	Adenovirus untyped	2
	Herpes simplex virus type 2	1
	Cytomegalovirus	29
S.I.D.S.	Coxsackievirus B2	1
	Echovirus 9	1
	Enterovirus 71	1
	Poliovirus (Sabin strain)	4
	Reovirus 2	1
	Adenovirus untyped	2
	Herpes simplex virus type 1	1
	Cytomegalovirus	6
Gastro-intestinal disorders	Coxsackievirus A untyped	5
	Coxsackievirus B2	3
	Echovirus 7	4
	Echovirus 9	3
	Echovirus 14	1
	Echovirus 22	1
	Enterovirus untyped	13
	Poliovirus (Sabin strains)	7
	Rotavirus	4
	Adenovirus untyped	60
Lymphadenopathy	Mumps virus	4
Myocarditis	Coxsackievirus B2	2
Pericarditis	Echovirus 22	1
Renal Disease	Cytomegalovirus	4

TABLE 9
HEPATITIS B SURFACE ANTIGEN SEROLOGY

Source	Number of Sera Tested	Number of Sera with Hepatitis B Surface Antigen
Patients (? hepatitis)	4 255	302
Renal Patients	2 433	. .
Routine Antenatal	1 031	43
Routine Drug Abuse	606	50
Renal or Tissue Donors	209	. .
Paramedical Staff	371	1
Patients from Solomon Islands	226	60
	9 131	456

TABLE 10
HEPATITIS B ANTIBODIES IN ANTIGEN NEGATIVE SERA

Source	Number of Sera Tested	Positive for Core of Surface Antibody or both
Patients	3 953	805
Routine Drug Abuse	556	379
Paramedical Staff	370	24
Renal or Tissue Donors	209	. .
Patients from Solomon Islands	116	132
	5 254	1 340

TABLE 11
SALMONELLAE ISOLATED FROM FOOD AND ENVIRONMENTAL SOURCES

Sample description	No. of items tested	No. of isolates
Dried instant meals	209	34
Ingredients for dried instant meals	74	12
Environmental samples from dried instant meal factory	35	6
Waters	106	40
Lettuce Heads	373	13
Brewing Yeast	55	10
Sewage Sludge	4	4
Environmental samples from powdered milk factory	10	2
Powdered milk	191	1
Flavoured milks containing dried egg . .	80	1

TABLE 12
BACTERIAL ENTERIC PATHOGENS ISOLATED FROM FAECAL SPECIMENS

Bacteria	No. of isolations	No. of patients
Salmonella sp. (not *S. typhi*)	65	45
Shigella sp.	14	12
Campylobacter jejuni/coli	76	65
Vibrio parahaemolyticus	1	1
Yersinia enterocolitica	4	3
Aeromonas hydrophila	1	1

TABLE 13
SENSITIVITY OF *NEISSERIA GONORRHOEAE* TO PENICILLIN

Minimal Inhibitory Penicillin Concentration (μg/ml)	Strains Inhibited					
	1981-82		1982-83		1983-84	
	Number	Per cent	Number	Per cent	Number	Per cent
0.004-0.015	238	38.5	413	45.8	348	35.2
0.03	25	4	47	5.2	30	3.1
0.06	86	14	198	21.9	285	28.9
0.12	169	27.5	157	17.5	203	20.6
0.25	47	7.5	28	3.2	40	4.0
0.5	19	3	11	1.2	9	0.9
1.0	0	0	2	0.2	0	0
2.0	0	0	2	0.2	1	0.1
>2.0*	34	5.5	43	4.8	71	7.2
Total	618	. .	901	. .	987	. .

* β = lactamase producing strains.

TABLE 14
PATHOGENIC AND OPPORTUNISTIC FUNGI ISOLATED OR DETECTED IN ROUTINE CLINICAL SPECIMENS

Fungi	Material	No. of isolations
Aspergillus species . .	Ear swabs	5
	Sputum	3
Candida albicans	Cervical, vaginal, urethral	339
	Skin	29
	Throat swabs and sputum	62
	Urine	2
	Pus	4
	Faeces	3
	Ear	1
	Miscellaneous	6
Other *Candida* species	Miscellaneous	34
Torulopsis species . .	Miscellaneous	11
Trichosporon beigelli . .	Skin	3
Epidermophyton floccosum	Skin	21
Malassazia furfur . .	Skin	17
Microsporum canis . .	Skin	14
Microsporum gypseum	Skin	5
Trichophyton concentricum	Skin	1
Trichophyton mentagrophytes . .	Skin	19
Trichophyton rubrum . .	Skin	72
Trichophyton tonsurans	Skin	6
Trichophyton verrucosum	Skin	1
Trichophyton violaceum	Skin	1
Trichophyton species . .	Skin	4
Cryptococcus neoformans	Culture identification . .	1
Fusarium species	Ulcer	1

TABLE 15
PARASITES DETECTED IN ROUTINE CLINICAL SPECIMENS

Parasite	Material	Number
Entamoeba histolytica cysts	Faeces	17
Entamoeba coli cysts	Faeces	52
Entamoeba hartmanni cysts	Faeces	1
Giardia lamblia cysts	Faeces	68
Giardia lamblia trophozoites	Faeces	1
Endolimax nana cysts	Faeces	13
Blastocystis hominis	Faeces	1
Hookworm ova	Faeces	3
Strongyloides stercoralis	Faeces	5
Ascaris lumbricoides ova	Faeces	5
Enterobius vermicularis ova	Faeces	2
Enterobius vericularis worm	Faeces	1
Trichuris trichiura ova	Faeces	10
Hymenolepsis nana ova	Faeces	6
Pediculus humanus ova	Hair	1

TABLE 16
IDENTIFICATION OF MULTIPLE TUBE ISOLATES

Atypical Mycobacteria (192 persons)	
M. ulcerans	0
M. haemophilum	0
M. marinum	4
M. kansasii	0
M. asiaticum	4
M. gordonae	2
M. flavescens	3
M. avium—M. intracellulare—M. scrofulaceum (MAIS) complex	143
M. terrae — M. nonchromogenicum complex	1
M. fortuitum	15
M. chelonae	14
M. smegmatis	1
Unclassified Rapid Growers	5
Total	192
Nocardia/Streptomyces species (14 persons) . .	14

TABLE 17
SEROVARS IDENTIFIED AMONG ISOLATES OF THE MAIS COMPLEX

Serovar[1]	1982–83 (128 persons[2])	1983–84 (105 persons[2])
1	11	10
5	1	..
6	3	1
7	9	7
8	1	..
9	8	7
11	1	2
12	3	3
13	1	5
14	14	16
15	..	1
16	16	10
17	4	1
18	4	5
19	4	1
22	2	..
23	1	2
25	1	3
26	..	1
27	..	1
Wolfenden	2	1
Rayner	3	..
Douglas	2	..
Wendt	1	..
Hammelswang	1	..
Ranchod	..	1
41	2	..
42	12	14
43	3	..
Unclassified	22	11
Autoagglutinable	17	14

[1] Serovars which are not listed were not encountered.

[2] Several persons were found to be excreting more than one type.

TABLE 18
CYTOGENETIC ABNORMALITIES DETECTED

Abnormalities	Blood	Amniotic Fluid
Down's Syndrome	21	8
Klinefelter's Syndrome (and variants)	4	..
Turner's Syndrome (and variants)	10	..
Chromosome Translocation	10	3
Trisomy 18	..	1
Tripliody	1	..
XYY Syndrome	2	..
X_q27 Fragile Site	1	..
Philadelphia Chromosome (bone marrow)	1	..
Miscellaneous	11	2
	61	14

TABLE 19
1. SEROLOGY

Tests	Totals
SERUM AGGLUTINATION TESTS	
P.U.O. Tests (Routine)—	
Salmonella typhi (O)	413
Salmonella typhi (H)	19 793
Salmonella enteritidis bioser, *paratyphi* A(H)	218
Salmonella enteritidis bioser, *paratyphi* B(H)	217
Proteus OXK	5 899
Proteus OX19	19 793
Proteus OX2	2
Brucella abortus	23 298
Cryptococcus neoformans—Antigen test	405
Cryptococcus neoformans—Antibody test	373
Leptospira serovars—	
copenhageni	28 585
javanica	28 585
celledoni	28 585
canicola	28 585
ballum	28 585
zanoni	28 585
robinsoni	28 585
cynopteri	28 585
bulgaria	28 585
djasiman	28 585
australis	28 585
pomona	28 585
grippotyphosa	28 585
kremastos	28 585
szwajizak	28 585
hardjo	28 585
medanensis	28 585
bataviae	28 585
tarassovi	28 585
panama	28 585
shermani	28 585
Paul Bunnell tests	19 648
Infectious Mononucleosis tests	565
P.U.O. Tests (Quantitative)	1 938
Syphilis—	
ART (Serum)— Routine	13 576
Quantitative	1 156
VDRL (CSF)	133
COMPLEMENT FIXATION TESTS	
P.U.O. Tests—	
Q Fever— *Coxiella burneti* (Phase 1)	
Quantitative	222
Q Fever—*Coxiella burneti* (Phase 2)	
Routine	25 823
Quantitative	2 862
Typhus Fever—*Rickettsia mooseri* (Soluble)	
Routine	17
Typhus Fever—*Rickettsia australis*	
Routine	18
Chlamydial infections—*Miyagawanella ovis*	
Routine	22 527
Quantitative	1 856
Brucellosis—*Brucella abortus*	
Routine	25 820
Quantitative	499
Primary Atypical Pneumonia—*Mycoplasma pneumoniae*	
Routine	22 579
Quantitative	5 344
Leptospirosis—*Leptospira biflexa* serovar *patoc*	
Routine	28 646
Quantitative	713
Viral Infections—	
Influenza A	
Routine	14 477
Quantitative	6 876
Influenza B	
Routine	14 475
Quantitative	3 023
Influenza C	
Routine	14 462
Quantitative	1 030
Parainfluenza 1	
Routine	14 462
Quantitative	1 515
Parainfluenza 2	
Routine	14 642
Quantitative	2 046
Parainfluenza 3	
Routine	14 462
Quantitative	3 619
Adenovirus	
Routine	14 463
Quantitative	2 977
Respiratory Syncytial Virus	
Routine	14 464
Quantitative	1 355
Mumps	
Routine	14 593
Quantitative	4 830
Measles	
Routine	4 555
Quantitative	1 623
Cytomegalovirus	
Routine	8 053
Quantitative	3 314
Herpes simplex	
Routine	3 167
Quantitative	1 589
Varicella-zoster	
Routine	634
Quantitative	554

SEROLOGY—continued

Tests	Totals
Lymphocytic choriomeningitis	
Routine	353
Quantitative	12
Rotavirus	
Quantitative	109
Enterovirus	
Routine	6
Quantitative	401
Poliovirus 1	39
Poliovirus 2	37
Poliovirus 3	37
Rubella	215
Dengue 1	82
Dengue 2	82
Dengue 3	82
Dengue 4	82
Alfuy	33
Kunjin	39
Murray Valley encephalitis	36
Toxoplasmosis—*Toxoplasma gondii*	
Routine	10 591
Quantitative	836
Hydatidosis—*Echinococcus granulosus*	
Quantitative	76
HAEMAGGLUTINATION INHIBITION TESTS	
Rubella antibodies	23 274
Rubella-specific IgM antibodies	5 952
Arbovirus antibodies—	
Ross River	
Routine	20 092
Quantitative	9 399
Murray Valley encephalitis	
Routine	20 468
Quantitative	6 610
Sindbis	
Routine	20 717
Quantitative	1 251
Alfuy	
Quantitative	614
Kunjin	
Quantitative	860
Dengue 1	
Routine	391
Quantitative	590
Dengue 2	
Quantitative	597
Dengue 3	
Quantitative	596
Dengue 4	
Quantitative	596
Kokobera	
Quantitative	448
Edgehill	
Quantitative	464
Stratford	
Quantitative	436
Getah	
Quantitative	39
Ross River-specific IgM antibodies	4 784
Murray Valley encephalitis-specific IgM antibodies	3 800
Sindbis-specific IgM antibodies	40
Alfuy-specific IgM antibodies	3 800
Kunjin-specific IgM antibodies	3 896
Dengue 1-specific IgM antibodies	3 560
Dengue 2-specific IgM antibodies	3 424
Dengue 3-specific IgM antibodies	3 496
Dengue 4-specific IgM antibodies	3 448
Kokobera-specific IgM antibodies	1 880
Edgehill-specific IgM antibodies	1 416
Stratford-specific IgM antibodies	1 520
Sepik-specific IgM antibodies	64
HAEMAGGLUTINATION TESTS	
Amoebiasis	97
Toxoplasmosis	166
Hydatidosis	96
TPHA	2 643
FLUORESCENT ANTIBODY TESTS	
FTA-ABS tests (serum)	1 192
FTA-ABS specific IgM antibodies (serum)	103
Toxoplasma Fluorescent Tests	
Routine	5 461
Quantitative	1 953
Toxoplasma Fluorescent specific IgM antibodies	477
Legionnaires' Disease Fluorescent Tests	
Routine	2 645
Quantitative	109
Legionnaires' Disease Fluorescent specific Igm antibodies	40
ENZYME LINKED IMMUNOSORBENT ASSAY	
Ross River specific ELISA IgM antibodies	5 955
Rubella specific ELISA IgM antibodies	491
OTHER TESTS	
Fractionation of sera by sucrose density gradient ultracentrifugation	1 849
Semenal analyses	79
LEPTOSPIRAL STRAINS TYPED (12)	
Agglutination tests performed in typing	429
Absorption tests performed in typing	27
Antisera prepared	18
Total 1983–84	1 211 218
Total 1982–83	1 101 464

2. BACTERIOLOGY
A. SPECIMENS OF HUMAN ORIGIN
(Non-Tuberculous)

Specimen	Examination			Totals
	Microscopy	Culture	Antibiotic Sensitivity	
Swabs—				
Throat and nose	183	4 404	511	5 098
Urethral, vaginal, cervical, Bartholin's Gland	10 804	14 496	1 308	26 608
Ear	74	120	87	281
Eye	55	84	58	197
Pus	426	711	537	1 674
Other	70	142	72	284
Miscellaneous fluids	29	36	5	70
Cerebrospinal fluids	6	5	. .	11
Smears for *M. leprae*	480	. .	. .	480
Sputum	297	329	101	727
Urine	6 314	6 605	1 160	14 079
Faeces and rectal swabs	1 246	2 047	236	3 529
Cultures for identification	144	353	202	699
Miscellaneous	31	51	15	97
Blood	132	155	5	292
Total 1983–84	20 291	29 538	4 297	54 126
Total 1982–83	23 824	30 385	5 429	59 638

B. PHAGE TYPING

———	Totals
Cultures prepared	1 204
Coagulase tests	395
Cultures typed at R.T.D.	789
Cultures typed at 100 x R.T.D.	216
Total 1983–84	2 604
Total 1982–83	2 545

C. FOODS AND WATERS

Specimen	Examination		Totals
	Culture	Plate Count	
Water	29 567	12 259	41 826
Water for	1 766	. .	1 766
Bivalves for *V. cholerae*	5	. .	5
Moore swabs for *V. cholerae*	79	. .	70
Milk	3 868	1 235	5 103
Cream	870	435	1 305
Other milk products	1 766	436	2 202
Meats and fish	11 966	1 919	13 885
Miscellaneous	3 983	571	4 554
Total 1983–84	53 870	16 855	70 725
Total 1982–83	44 779	15 796	60 575

D. VARIOUS MATERIALS AND TESTS

Specimen	Examination	Totals
Disinfectants and antiseptics	Cultures tested	204
Bottles	Sterility	4
Urine	Albumin	6 314
Urine	Reducing substances	6 314
Total 1983–84		12 836
Total 1982–83		18 089

3. MYCOLOGY

Specimen	Examination			Totals
	Micro-scopy	Culture	Antibiotic Sensitivity	
Scraping (skin and nail)	813	896	47	1 756
Cervical and vaginal	. .	5 069	1 342	6 411
Sputum	17	63	35	115
Miscellaneous	11	130	45	186
Total 1983–84	841	6 158	1 469	8 468
Total 1982–83	992	6 842	1 503	9 337

4. PARASITOLOGY
(Excluding Malaria)

Specimen	Object of Examination	Totals
Faeces	Amoeba (cysts and vegetative)	1 228
	Helminth ova	1 228
Pus	*Trichomonas vaginalis*	5 803
Helminth (worms)	Identification	5
Total 1983–84		8 264
Total 1982–83		9 397

5. MYCOBACTERIOLOGY

Specimen	Examination			Totals
	Microscopy	Culture	Animal Inoculation	
Sputum	17 478	17 478	. .	34 956
Urine	1 470	1 470	2	2 942
Others	3 566	3 566	2	7 134
Asbestos Bodies	7	. .	. .	7
Total 1983–84	22 521	22 514	4	45 039
Total 1982–83	23 081	23 071	5	46 157

5. MYCOBACTERIOLOGY—continued

Other Investigations	1982–83	1983–84
CULTURES SUBMITTED		
Mycobacterium tuberculosis for confirmation and sensitivity	53	49
Atypical mycobacteria for identification and sensitivity	9	22
Identification only	31	27
Total	93	98
Atypical mycobacteria identified	237	192
Nocardia/Streptomyces species identified	3	14
Atypical mycobacteria serotyped	211 (128 persons)	170 (105 persons)
SENSITIVITIES PERFORMED		
M. tuberculosis complex	157	144
Others	49	42
Disc sensitivity tests	29	37
Total	235	223

6. HAEMATOLOGY

Test	Totals
Haematology profile with smears	11 078
Haematology profile without smears	I 059
Blood smears	66
Platelet count	251
Erythrocyte sedimentation rate	5 205
Eosinophil count	53
Reticulocyte count	34
Stipple cells	20
Haemoglobin studies	301
Glucose-6-phosphate dehydrogenase	301
Pyruvate kinase	30I
Glutathione reductase	301
Haemorrhagic studies	100
Prothrombin time	79
Red cell fragility	0
Human chorionic gonadotrophin	1 630
Vitamin B_{12}	2 101
Folic Acid	2 101
Rheumatoid arthritis screen	I 017
Rheumatoid arthritis test titre	114
Anti nuclear factor	1 152
Anti smooth muscle antibodies	1 152
Anti mitochondrial antibodies	1 I52
Anti parietal cell antibodies	1 152
Salivary antibodies	0
Bone marrow	34
Neutrophil alkaline phosphatase	4
Periodic acid schiffs	I
Perioxidase	1
Iron stain	35
L. E. cells	8
Malarial parasites	4 247
Group and Rh	1 220
Rh antibody screen	1 110
Rhesus antibody titre	9
Immune anti-A/anti-B antibodies	0
Direct Coombs test	41
Indirect Coombs test	0
Infectious mononucleosis test	1 258
Cold agglutinins	15
Filiaria	0
Schilling test	21
Cryoglobulins	4
DNA	488
C3	549
C4	549
Anti-ds DNA	158
RC folates	907
Total 1983–84	41 447
Total 1982–83	42 030

7. HISTOLOGY

Tissue Specimens Received	1982–83	1983–84
Surgical pathology cases	8 437	6 539
Post mortem cases	124	117

8. BIOCHEMISTRY

Specimen	Examined for	Totals
Blood and/or Serum	Acetyl cholinesterase	499
	Acid phosphatase (Total)	I21
	Acid phosphatase (Prostatic)	13
	Albumin	670
	Alpha 1 antitrypsin	64
	Amylase	136
	Bilirubin (Total)	18
	Calcium	239
	Carotene	39
	Ceruloplasmin	44
	Chloride	20
	Cholesterol	5 939
	Cholinesterase	543
	"C" Reactive Protein	138
	Creatinine kinase	65
	Ferritin	I 878
	Gamma glutamyl transferase	720
	Glucose	
	Glycosylated	335
	haemoglobin	735
	Dibucaine number	21
	Fluoride number	21
	HDL cholesterol	5 933
	Immunofixation	34
	Immunoglobulins	1 380
	Iron	I 707
	Lipoportein	I33
	electrophoresis	216
	Lithium	50
	Magnesium	239
	Phosphate	654
	Protein	752
	Protein electrophoresis	
	Throxine	5 632
	T uptake	5 617
	Thyroid binding globulin	62
	Thyroid stimulating hormone	1 031
	Transferrin	1 707
	Triglycerides	5 939
	Urate	55
	Urea	74
	Miscellaneous	105
		43 578
Urine	Calcium	I2
	Coproporphyrin and Uroporphyrin	84
	Creatinine	13
	Delta aminolevulate	274
	Glucose	I26
	Porphyrin total	I76
	Protein	73
	Protein electrophoresis	64
	Urate	10
	Miscellaneous	84
		916
Faeces	Fat content	195
	Occult blood	32
	Porphyrin screen	28
	Reducing substances	12
		267

Spinal Fluid	Protein	13
	Protein electrophoresis	19
	Immunoglobulin/ Albumin ratio	21
		53
Other Fluids	Urea	344
	Miscellaneous	28
		372
Functional Tests	Creatinine clearance	11
	Glucose tolerance	114
		125
Miscellaneous	Calculus	120
		120
Total 1983–84		45 431
Total 1982–83		45 634

Specimens submitted to Princess Alexandra Hospitals for SMAC Profile—	
1983–84	8 204
1982–83	11 440

9. CYTOGENETICS

Specimen	1983–84	1982–83
Blood	341	319
X_q27 Fragile Site	53	15
Bone Marrow	6	11
Amniotic Fluid	355	331
	755	676

10. MEDIA

	Totals	
	1983–84	1982–83
Slopes	161 756	161 952
Plates	324 683	315 370
Tubes and Bottles	324 929	286 456
Total	811 368	763 778
Stains	719 litres	693 litres
Chemical Solutions	10 088 litres	13 115 litres

11. MEDICO-LEGAL

Exhibits	Total
Blood	557
Saliva	143
Vaginal smears	385
Vaginal swabs	402
Rectal smears	58
Rectal swabs	65
Blood swabs and scrapings	805
Miscellaneous smears and swabs	157
Hair	631
Clothing and bedding	2 522
Weapons	150
Miscellaneous	751
Total 1983–84	6 626
Total 1982–83	5 600

11. MEDICO-LEGAL—continued

Examinations on Exhibits	Total
Blood groupings	7 502
Specialized groupings	785
Screening tests for blood	2 410
Blood identification	1 359
Species identification	2 548
Acid phosphatase screening	1 933
Rocket-Laurel tests	294
Smears	1 081
Hair comparisons	2 030
Secretor tests	1 110
Miscellaneous	287
Total 1983–84	21 339
Total 1982–83	21 188

12. INSTITUTE OF FORENSIC PATHOLOGY

	1983–84	1982–83
Post mortem examinations	1 131	1 242
Histology—		
Paraffin sections	11 104	10 275
Histochemistry	286	326
Frozen sections (routine)	88	65
Frozen sections (fluorescent antibody)	1 210	1 242
Bacteriology—		
Blood cultures	35	35
Other cultures	139	169
Microscopy—		
Diatoms	54	48
Spermatozoa	4	2
Radiography	342	279
Photography—		
Slides—gross specimens	240	360
Photomicrographs		120
Line Slides	117	187
Monochrome prints	115	105

13. ANIMAL BREEDING STATION

	1983–84	1982–83
Animals Provided—		
Guinea pigs	34	131
Rabbits	42	74
Mice—		
Litters	1 899	2 234
Weaned	653	546
Animal Bleeding—		
Rabbit (40 ml)	211	127
Guinea pig (10 ml)	224	246
Sheep (400 ml)	67	70
Geese (20 ml)	68	94
Stock on Hand—		
Guinea pigs	136	142
Rabbits	186	133
Mice	914	930
Sheep	6	10
Geese	8	8

GOVERNMENT CHEMICAL LABORATORY

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Deputy Director (Research and Specialized Services): J. C. YULE, B.Sc., B.Econ., Dip.Ind.Chem., A.R.A.C.I.

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Assistant Directors: J. V. FOREMAN, B.Sc., A.R.A.C.I.
D. S. LECKY, B.Sc.

Supervising Chemists: G. D. GRAIEG, B.Sc.(Hons)
P. M. GEOGHEGAN, B.Sc.(Hons)
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GENERAL REVIEW OF THE YEAR'S OPERATION

This year has been mainly one of consolidation of existing chemical and analytical procedures and processes. A partial internal reorganization of duties of some senior staff in the latter half of the year was made as a preliminary trial to the proposed reorganization of the laboratory following the plan recommended by the Management Services based Project Team. The portion of the work carried out in terms of sample numbers, for the Health Department other State Departments and Authorities, Local Government Authorities and Commonwealth Government Departments is detailed in the Source Table. Other work is described in a variety of ways throughout the report.

ORGANIZATION AND STAFF

The staff of the laboratory remains at 115. Some problems due to resignations and long periods of leave without pay for permanent staff have meant that the full complement of experienced staff has not always been available. Temporary staff have been utilized in an attempt to fill partially the resultant vacuum.

The Report of the Independent Committee of Inquiry into Commonwealth Laboratories became available during the year.

For this year, 16 officers have availed themselves of the benefits of the Public Service Study Assistance Scheme.

Because of the diversity of interest of the laboratory and its breadth of expertise, the senior officers are members of a wide variety of international, inter-governmental, and inter-departmental committees and other advisory bodies of recognized national and State importance in scientific and educational spheres. They include:

- The Council of the National Association of Testing Authorities;
- The National Advisory Committee on Chemicals (under the auspices of the Australian Environment Council) and its associated Hazardous Waste Working Group, and Chemicals Consultative Committee;
- The Collaborative International Pesticides Analytical Council;
- The Group of Experts on Specifications of the FAO Panel of Experts on Pesticide Specifications Registrations Requirements and Applications Standards;
- The Dangerous Goods Sub-Committee of the Association of Australian Port and Marine Authorities;
- Three Committees of the Standards Association of Australia namely: (i) DS/2—Dairy Products (representative of the Laboratory); (ii) FT/8—Plastics for Food Contact (representative of the State Department of Health); (iii) CH/1—Laboratory Glassware and related apparatus;
- The Queensland State Paint Group of the Government Paint Committee (G.P.C.) within the Commonwealth Department of Transport and Construction;
- The Inter-Departmental Committee on the Chemical Contamination of Food (I.D.C.C.C.F.);
- The Occupational Hygiene (Reference) Sub-Committee of the National Health and Medical Research Council (N.H.M.R.C.);
- The N.H.M.R.C. Committee for Asbestos Estimation;
- Queensland Institute of Technology Chemistry Advisory Committee;
- The Darling Downs Institute of Advanced Education, Chemistry Advisory Committee;
- The Ad Hoc State Committee on the Transport of Dangerous Goods;
- The Steering Committee on Waste Disposal in South East Queensland;
- The Task Force on Waste Disposal; and
- The Australian Pesticides Analysis Committee.

With the exception of the two International Committees, Committee CH/1 and the newly reconvened committee on asbestos, laboratory personnel attended meetings of all the above groups during the year.

One chemist attended the 1984 supervisor development programme arranged by the Management Services Branch of the Health Department. Two chemists and the senior laboratory technician attended a skill development workshop on effective communication at work.

During the year, the laboratory was represented at the following conferences of professional bodies or meetings of interstate organizations:

- Third Meeting of the Heads of Government Chemical Laboratories within Australia, Adelaide—22nd–24th August, 1983;
- The Silver Jubilee Convention of the Oil and Colour Chemists Association of Australia (O.C.C.A), Melbourne, 28th September–1st October, 1983;
- The Second Annual Conference of the Australian Institute of Occupational Hygienists, University of Sydney, December 5th–7th, 1983;
- Eleventh Conference of Residue Chemists, Melbourne, 25th–27th October, 1983;
- The Food Analysts Advisory Sub-Committee of the N.H.M.R.C.—Canberra—25th–26th January, 1984;
- The Eighth Australian International Forensic Science Symposium, Perth—26th–30th September, 1983;
- The Eleventh Australian Chemical Engineering Conference ("CHEMECA")—Brisbane, 4th–7th September, 1983;
- The Seventh Analytical Symposium of the Royal Australian Chemical Institute, Adelaide, 22–26th August, 1983;
- The Royal Australian Chemical Institute (Qld Branch—Analytical Group Committee—Monthly Meetings);

- The Australian Forensic Science Society (Qld Branch)—Monthly meetings and an address; and
- The Eighth Australian Conference in Electron Microscopy—12th–13th February, 1984 at Griffith University.

Training Courses attended by laboratory officers included: Workshop & Seminar in Photomicrography and Photomacrography; and Fourier Transform Infra Red Spectroscopy—University of Queensland—23rd March, 1984.

Paid work experience was given to two science students from the University of Papua and New Guinea for four weeks. This training was arranged by the Papua New Guinea-Australia industrial training programme. Work experience periods of one week were given to two students of Brisbane secondary schools under the relevant programme organized by the State Department of Education. In this connection, one senior officer of the laboratory attended a one day seminar at the Bardon Professional Development Centre.

TABLE OF SOURCE AND NUMBER OF SAMPLES EXAMINED FOR YEARS 1982–83 AND 1983–84

Source (Departmental or Other)	1982–83	1983–84
State Departments—		
Health Department—		
Division of Environmental and Occupational Health—		
Section of Food Supervision	8 323	7 895
Section of Drugs and Poisons	1 122	421
Section of Environmental Sanitation	5 525	5 343
Division of Occupational Health	1 783	2 421
Division of Child Health	1	1
Alcohol and Drug Dependence Services	2 585	3 311
Total for Health Department	19 339	19 392
Mines Department—		
Geological Survey Division	682	818
Mines and Inspectorate and Gas Engineer	2 507	2 450
Cloncurry Assay Office	910	288
Qld Coal Board	504	496
Total for Mines Department and Coal Board	4 603	4 052
Police Department	5 267	6 242
Justice Department (Coroner)	1 415	1 349
Queensland Water Resources Commission	3 545	3 847
Water Quality Council	11 045	9 508
State Stores Board	556	839
Queensland Housing Commission	704	37
Department of Primary Industries	99	81
Department of Public Works	1 979	1 566
Railway Department	Nil	4
Main Roads Department	71	15
Harbours and Marines Department	*	100
Department of Aboriginal and Islanders Advancement	*	67
Other	172	203
Total for State Departments	48 795	47 302
Commonwealth Departments—		
Department of Primary Industry	2 220	1 701
Department of Commerce and Industry	942	1 208
C.S.I.R.O.	212	Nil
Others	13	43
Total for Commonwealth Departments	3 387	2 952
Port and Harbour Authorities	41	24
Other State Government Authorities	*	29
Medical Practitioners, Hospital and Allied Clinical Services	1 121	1 013
Local Authorities	135	121
Other Countries (Papua New Guinea)	49	15
Public and Miscellaneous	401	758
TOTAL	53 929	52 214

* Specific details not available.

The laboratory assists in various training courses for tertiary education and other areas requiring the specialized knowledge of officers. Some of these to which assistance was afforded this year are:

- Police Department Breathalyser Operators Training Courses—three sessions, two at the Oxley College and one at Headquarters;
- TAFE College of Catering & Hospitality Services—Meat Trades Section —"Health Regulations Regarding Processed Meats";
- University of Queensland—Medical School—Lectures to students on hazards in the Lead Processing Industry;
- University of Queensland—Chemistry Department—lectures on Chemistry and the Law;
- Royal Australian Air Force—Lectures to apprentices on hazards in the electroplating trades;
- Queensland Institute of Technology—Chemistry Department—Lecture on Forensic Chemistry; and
- National Safety Council of Australia—Participation in a segment of a training course on the role of Occupational Hygiene.

The senior officers of the laboratory participate as experienced neutral assessors in the assessment of chemical laboratories for National Association of Testing Authorities (NATA). Seven assessments were made during the year.

Although there have been some changes in sample numbers processed for particular clients, the above table shows that there had, in total, been little significant alteration during this year. Reference to the descriptive reports and the tables of further detail, later in the report, will show where these changes have occurred and the effects of these changes.

ACCOMMODATION—HOUSING

Further minor building alterations were completed or under way as part of a programme which has extended over the last three years. The clean air room for processing of ultra-trace elemental analysis has progressed to a standard that is all that can reasonably be expected in a site below busy roadways and an expressway, and consistent with economic expenditure on an old building.

Further inspections and discussions on a site for a new laboratory have proceeded during the year.

MATERIAL RESOURCES

The laboratory has a continuing policy of applying capital expenditure for the purpose of expediting and increasing repetitive sample processing and to free as much as is possible, skilled scientific personnel for the "one-off" investigative problems that arise daily in the operation of this type of laboratory. With this policy in view, an annual shopping list is prepared by relevant sections and decisions taken as to the most useful equipment to acquire within the finances available. This year's major acquisitions included:

- Automatic injector and additional electron capture detector for pesticide residue analysis;
- Additional variable detector for high performance liquid chromatograph for drug, economic poisons and pesticide residue analysis;
- Automatic sample injector system for high performance liquid chromatograph to increase and expedite the analysis of food, beverages and vitamin preparations and for method development;
- Fittings to convert an existing gas chromatograph to capillary column operation for determination of drugs in body fluids;
- An automatic liquid sample injection system for the inductively coupled plasma optical emission spectrometer.

Extensions to the existing laboratory computer system were also acquired including:

- I/O extender;
- 512Kb—memory extensions;

- One additional (interactive) computer terminal and A/D and D/A converters.

A portable gloss meter for measuring gloss performance and persistence of floor treatments and other surface coatings (e.g. paint) for use in government buildings was also obtained.

COMPUTING

The use of the laboratory computer is being extended to the implementation of a data base for sample records including samples received, samples completed and samples finalized through court action. Application of data base programs has made easier the job of storing information on the nature of samples and treatment of them, by the laboratory. This has enabled various items of statistical information, hitherto only obtainable with difficulty, to be easily accessed. Programs designed to assist in sample reporting and result calculation have been extended and improved in both number and capability. The implementation of this project is being done on a planned basis as resources permit.

FINANCIAL ADMINISTRATION

The introduction of the computerized data entry scheme for every sample or batch of samples is the most marked change from organizational methods of previous years. As with any new scheme of this type, it is time-consuming and not without problems. It was achieved without the addition of further staff but naturally required a diversion of existing resources and continues to place great strains on clerical resources.

The total cost of the operations of the laboratory to Consolidated Revenue through the Health Department vote was $3,070,278, being comprised of salaries $2,643,074 and contingencies $427,204. In addition, there were the recurrent costs of telephones, gas and electric power and the further cost of periodical maintenance of such services as air-conditioning of special equipment, plumbing and electricity supply and those of the building alteration and modification programme which has been in progress for some years. All of these are supplied by the Department of Public Works.

Recovery of costs from the two major Commonwealth Government clients amounted to $156,920, and charges for a major State Government client operating on a trust fund were $403,736. Notional costs were calculated for those Divisions and Departments which are funded on Consolidated Revenue.

ANALYTICAL AND INVESTIGATORY SERVICES PERFORMED BY THE LABORATORY

Reports on services provided by the laboratory for the year are presented on a basis of common public interest rather than on that of the organizational section of the laboratory which report results. Many reports require the collaborative work of a number of sections and services to provide the results in a co-ordinated form intelligible to the client.

The reports are grouped under the following headings:—

- Monitoring for public health in what the community eats, drinks and uses.
- Scientific evaluation of occupational health problems
- Forensic and coronial chemical services
- Clinical toxicological service
- Natural resources—investigations
- Aqueous environment—monitoring
- Government contracts supervision and advisory services
- Commonwealth government departments—analytical and chemical advisory services
- Advisory services
- Research and publications.

Monitoring for Public Health in what the Community Eats, Drinks and Uses

Drinking Water

A major function of the section continues to be the provision of an analytical and advisory service to the Health Department and other government departments in relation to the chemical quality of public and private water supplies.

A total of 472 samples of water collected from fluoridated public water supplies are tested for fluoride content. All conformed to the prescribed standard. The number of samples examined in connection with the stream cholera survey by the Department of Health decreased this year. Using analysis reports issued by the Department of Primary Industries, 669 statements of advice in the suitability of water for domestic use were given on behalf of that Department.

Details of the services and the number of samples examined are set out in the following table.

Source of Samples	S.W.A.*	Fluoride	Trace Metals†	Nutrients‡
Department of Health—				
(a) Cholera Survey	662	..	492	489
(b) Other	1 504	472	355	37
Department of Local Government	51	..	..	..
Department of Primary Industries	80	..	..	..
Department of Public Works	6	..	..	..
Miscellaneous	28	..	..	..

* S.W.A. Standard Water Analysis involves the following 17 determinations, viz: conductivity, pH, colour, turbidity, silica, alkalinity, sodium, potassium, calcium, magnesium, chloride, fluoride, nitrate, sulphate, iron, manganese and zinc.

† The samples submitted for metal analysis usually had the following metals determined: chromium, manganese, iron, nickel, copper, zinc, cadmium, lead.

‡ Nutrient analysis involves the determination of organic nitrogen, ammonia nitrogen, nitrate and nitrite nitrogen and total phosphorus.

Water intended for potable use is submitted through the Chief Inspector of Environmental Sanitation to ascertain the presence of pesticides.

Most of these samples originate from persons without reticulated water supply. The possibility exists for contamination of tanks, dams, bores and other sources of drinking water by pesticides especially in farming areas. Excessive levels of pesticide contamination of drinking water are rarely found. Fifty-nine samples of water were analysed and the results are given in the following table. No water sample was found to contain pesticides at concentrations in excess of the maximum residue limit (MRL).

PESTICIDES IN DRINKING WATER

Pesticide	No. of Samples with Pesticides	M.R.L. (mg/l)	No. of Samples 0–10% of M.R.L.	No. of Samples 10–50% of M.R.L.	No. of Samples 50–100% of M.R.L
DDT plus Metabolites	10	0.003	9	1	..
Dieldrin	7	0.001	4	3	..
2,4-D	7	0.1	7	..	..
2,4,5-T	10	0.002	3	3	4

Quality of Food and Beverages

One of the functions of the laboratory is to provide an analytical and advisory service to the Division of Environment and Occupational Health. This covers food quality and hygiene, food nutrition, food acceptability and fitness for human consumption, as well as an assessment of food and beverages in relation to the requirements of the Food Act and related regulations.

Analyses commonly result in one or more of the following:—

- An assessment of food with respect to compositional and labelling requirements;
- Provision of Food Act certificates of analysis which can be used in prosecution proceedings involving official samples;
- Compilations of information as to the quality of a food or its state of deterioration, including the presence or absence of contaminants and its fitness for human consumption; and
- The obtaining of specific data of the compositional or nutritional nature on certain foods or types of foods.

The year has been one of consolidation of techniques acquired over the past few years. Specific areas where consolidation has occurred include analyses carried out with the aid of a high performance liquid chromatograph (HPLC) using a semi-automatic sample processor, analyses involving isoelectrofocusing and immunoelectrophoresis and other related electrophoretic techniques and thirdly, analyses, typically for low levels of metals in foods, employing various techniques involving atomic absorption spectroscopy. Sugars and many preservations, especially in various types of beverages, are now being effectively and efficiently analysed using the HPLC technique. Many samples of fish fillets, sausages, chopped meats and meat cuts have been checked for source species using one of a range of electrophoretic techniques.

The vast majority of samples examined were received from the Division of Environmental and Occupational Health. These numbered 7 291 in total of which 3 306 were official samples specifically taken to enable prosecutions to be launched if necessary. The ratio of official samples to total samples received was thus 0.46. This ratio has risen over the previous two years from 0.26 in 1981–82 and 0.34 in 1982–83, to the present figure. This has in part resulted from the provisions of the Food Act which became applicable from 1st July, 1982. The increasing emphasis on official samples has caused some strain on laboratory resources of personnel and equipment. Further samples were received from the Weights and Measures Branch of the Consumer Affairs Bureau (25) and the Water Quality Council, Queensland (22). Samples were also received from the Queensland Boating and Fisheries Patrol (99), the Queensland Electricity Generating Board (29), the Prisons Department (1), the Department of Harbours and Marine (1) and a private firm of solicitors (1).

FOOD SAMPLES EXAMINED FOR PUBLIC HEALTH PURPOSES

Description	Number Examined (1982–83)	Number Examined (1983–84)
Dairy Products, Fats and Oils—		
Milk	963	904
Milk drinks	600	750
Cream	225	315
Yoghurt, butter and cheese	212	89
Ice Cream	29	23
Margarine and vegetable oils	Nil	12
Other fat based products	85	26
Bread, Cereals and Carbohydrates—		
Bread	669	643
Other cereal products	59	74
Saccharine products (sugar, confectionary, honey, frozen confections)	143	56
Other carbohydrate foods	24	8
Carcass Meat, Fish and Poultry—		
Minced meat and meat cuts	565	663
Sausages and sausage meat	589	703
Meat pies	214	232
Other meat products	338	184
Fish flesh, oysters, crustaceans (trace metals)	590	437
Fish and marine products	291	392
Fruits, Vegetables, Nuts and their Products—		
Fruit and vegetable products	70	109
Nuts, pulses and seeds	97	323
Beverages and Food Adjuncts—		
Soft drinks, fruit juices and cordials	1 144	707
Beer, wines and spirits	221	141
Tea, coffee and cocoa	32	57
Spices, condiments and additives	16	27
Other Foods—		
Suspected or contaminated foods	453	527
Miscellaneous	134	67
Total	7 763	7 469

Dairy Products, Fats and Oil

The degree of compliance of these classes of samples with the relevant prescribed standards was very high (99%). Of the milk samples which were unsatisfactory, most had freezing points which were significantly higher than the prescribed maximum of −0.517 degrees Celcius. There were, however, also five instances of deficiency in nonfat milk solids. Two samples of skim milk were found to contain excess fat, and conversely, of two cream samples, one was deficient in fat and the other contained a lower amount of fat than that claimed on the label.

Some dairy products received, notably fruit yoghurt and flavoured milk, were labelled in an unsatisfactory manner as regards product description or the nature of the ingredients present; in the case of flavoured milks Food Act certificates were issued.

OFFICIAL SAMPLES EXAMINED IN ACCORDANCE WITH PROVISIONS OF THE FOOD ACT

Nature of Samples	1982–83			1983–84		
	No. Examined	Passed the Std.	Passed (%)	No. Examined	Passed the Std.	Passed (%)
Milk	600	576	96	622	617	99
Cream	66	66	100	178	177	99
Cheese	7	2	29	11	7	64
Bread	247	204	83	485	414	85
Other cereal products	3	3	100	24	23	96
Minced meat	557	510	92	658	612	93
Sausages and sausage meat	575	489	85	689	594	86
Meat pies	148	85	57	188	174	93
Other meat products	53	44	83	15	13	87
Fish	250	228	91	195	194	99
Fruit and vegetables	6	3	59	12	2	17
Beer, wine and spirits	34	22	65	31	28	90
Other beverages	33	20	61	144	118	82
Suspected or contaminated foods	34	. .	. .	54	21	39

Approximately 250 samples of milk and milk products were examined for trace iodine content. Concentrations in excess of the permitted maximum level indicate careless use of iodaphor disinfectants. Fewer than 2 per cent of those samples were found to fail the standard, indicating that a problem no longer exists in this area.

Previous analyses had indicated that one sample of an imported variety of egg custard infant food was deficient in egg solids. Further analyses of the product in question were undertaken during the year. The egg solids were determined by measuring the concentration of cholesterol present using gas chromatography of the trimethylsilyl derivative. The imported variety of egg custard deficient in egg solids with respect to the requirement of the Food Standards Regulations in contrast to locally produced similar products.

Twelve samples of vegetable oil were submitted to determine whether antioxidants (notably BHA, BHT and alkyl gellates) were present. Reversed-phase high performance liquid chromatography was the method of choice for detection of those compounds in most instances. Where this was unsatisfactory for technical reasons due to the particular types of oil, the antioxidants were confirmed by the use of thin layer chromatography. None of the oils examined were found to contain more than the permitted concentrations of antioxidants.

This method was also applied to the detection of antioxidants in wax used to impregnate paper bags containing breakfast cereals. No antioxidants were found in any of the 12 samples of cereals that were submitted.

Bread, Cereals and Carbohydrates

The majority of all samples of breads and flours examined during the year were official samples (71%). Of the 15 per cent of samples that failed to comply with standards, many were brown breads, wholemeal breads or fibre increased breads which were deficient in crude fibre. Most of the other breads that failed to comply with standards were milk breads deficient in non-fat milk solids.

A sample of gluten-free bread mix was examined for the presence of gluten. Gluten is the predominant natural proteinaceaous substance found in normal wheaten meals and flours. After some method development, it was established using an immunoelectrophoretic technique, that the subject bread mix did not contain gluten at a level higher than 3 grams per kilogram.

Twenty-five samples of bread and related products were examined for the Weights and Measures Branch of the Consumer Affairs Bureau. Most of these samples required a determination of dry solids content and in the case of milk breads, of non-fat milk solids.

Samples of five products were submitted for an opinion as to whether they were bread within the meaning of the Food Act. Several of these samples were bread products which contained small proportions of carbohydrate derived from vegetables such as pumpkin and potato.

Twenty-eight samples of honey were examined during the year. This examination showed that honey available in Queensland is generally of high quality. All the samples complied with the prescribed standard and no evidence of adulteration with water or sugars not derived from honey was found.

An examination was carried out on several boxes of different imported chocolates and chocolate-coated confectionary. The lipid content of all the chocolate products consisted of vegetable oil as well as the usual cocoa fat or cocoa butter. Only one of these samples made a statement in the label concerning the presence of vegetable oil. The Food Standards Regulations require that chocolate products containing vegetable oil are labelled as compound chocolate.

Carcass Meat, Fish and Poultry

There was a further marked increase in the number of official meat and fish samples submitted for analysis, 1 583 for 1982–83 and 1 845 for 1983–84. This necessitated an increase in the proportion of staff allocated to deal with this area of activity. It was therefore necessary to reduce the amount of time and effort devoted to method development. The proportion of samples failing the requirements of their respective standards again showed a decrease over previous years (14 per cent for 1982–83 and 9 per cent for 1983–84). This indicates perhaps that the much more intensive policing and the higher penalties now being imposed are having an effect in the retail meat and fish trades.

As in previous years, most (93%) of the minced meat samples submitted passed the standard. Those which failed almost invariably did so because they contained the preservative sulphur dioxide, but one was misdescribed as regards meat species and one contained artificial colouring. Generally speaking, minced meats purporting to be made from a particular species of meat were much less likely to be adulterated with cheaper species than were sausages and sausage meats (0.1% compared with 7%).

Seven per cent of sausages and sausage meats contained an excessive amount of sulphur dioxide. This situation is the same as which applied in 1982–83. However, there was a slight decrease in the proportion found to be deficient in meat content (1.4% for 1982–83 and 1.0% for 1983–84) and a somewhat greater incidence of the presence of excessive fat (0.3% for 1982–83 and 0.7% for 1983–84). The latter was perhaps a reflection of the depressed economic conditions which prevailed during the period. Only one sausage sample was found to contain excess starch and one sample of sausage meat failed the relatively new regulatory requirement that sulphur dioxide must not be present if the meat content exceeds 850g/kg.

Comparatively few samples of meat pies examined failed to pass the standard. Most of those which passed had meat contents very close to the legal minimum meat content, with few being significantly above it.

As in the previous year, a fairly large survey (116 samples) of manufactured meats and cured meats was undertaken. About 70 per cent of these fell into the cooked manufactured meat category, including such products as Windsor sausage and mettwurst. Most (97%) of the manufactured meats, both cooked and uncooked, were of a high quality as regards meat content but about 30 per cent of the samples had slightly excessive levels of nitrite and nitrate preservative. It is hoped to make further improvements to the method of analysis for these additives in the coming year. Four samples were found to contain starch and one to contain excess phosphate; these additives are used to increase the water retention of the product.

Fish samples, numbering 195, were submitted during the year for species identification. Of these only one was found to be definitely misdescribed. In a few cases no reference standards were held in the laboratory, and in some instances, it was unclear which species was implied by the common name used. It is obvious from the dramatic fall in the frequency of fish species misdescription (9% for 1982–83 and 0.5% for 1983–84) that the policing by the Department in recent years has had a marked effect.

During the year, an enzyme staining technique to differentiate between meat from sheep, goat and deer was implemented. These species have hitherto been almost indistinguishable by methods employed in the laboratory as they not only give the same pattern in isoelective focusing electrophoresis but also react similarly towards antisera. The procedure now used relies on the separation of 6-phosphogluconate dehydrogenase (PGD) enzymes to give a characteristic pattern for each species.

A reduced number of fish and other marine products was analysed. These samples were analysed for low levels of metals and almost all complied with the relevant standard. Notable exceptions were that all 16 samples of spanner crabs analysed were found to contain excessive amounts of cadmium, and all 11 samples of baby clams also contained significant concentrations of cadmium, one being as high as 15 milligrams per kilogram. Several samples of dried kelp and kelp tablets were analysed for arsenic and lead. Two samples contained significant concentrations of inorganic arsenic and a few contained a significant quantity of lead.

Fruits, Vegetables, Nuts and their Products

Two surveys of nuts and nut products were carried out during the year to detect possible contamination with aflatoxins. These are highly toxic compounds produced by a mould whose growth is favoured by certain climatic conditions. In the first survey, six of the 159 samples examined contained aflatoxin concentrations higher than the recommended limit (15 ppb) and two of these exceeded 500 parts per billion. In the second survey carried out late in the year only one of the 117 samples analysed (a peanut butter from South Africa) contained any aflatoxin, but even this was within the recommended limit.

Potatoes were checked for the presence of mercury compounds which could be present as a result of the improper use of fungicides. None of the 17 batches of potatoes examined contained detectable quantities of mercury.

Beverages and Food Adjuncts

Although there was a decline in the total number of soft drinks and fruit juice products examined during the year, there was a sharp rise in the number of official samples falling within this category (33 in 1982–83 and 144 in 1983–84).

Of the unofficial samples taken, approximately 90 per cent complied with the relevant standards. About half of the unsatisfactory samples contained excess preservative, deficiency in fruit juice content also being common. Deficiency in vitamin C in fruit juices and fruit juice drinks was also noted in several instances. These results are similar to those of previous years. The failure rate among the official samples submitted (approaching 20 per cent), was lower than that for 1982–83 (39%). Excess preservative was again the most common reason for non-compliance with the standards. One sample of brewed soft drink contained excess alcohol. Most of the other samples which failed were fruit juices which were deficient in ascorbic acid (vitamin C).

There was a decline in the number of alcohol samples submitted for examination. This was reasonable in view of the fact that most samples analysed in recent years have been found to be satisfactory. The number of spirits in particular, was smaller and, as such samples are usually sent to the laboratory only when a field test indicates a deficiency in strength, it would seem that the prevalence of adulteration prior to sale has decreased.

Following the discovery in the previous year of excessive silicone antifoam in approximately one-quarter of the brands of instant coffee which were tested, a further survey of the unsatisfactory products were carried out. All were found to have similar levels to those which had previously been determined. After a further period had elapsed, official samples of the brands in question were taken, but analysis revealed on this occasion that only one contained excess silicone. This indicates that, given a period for adjustment, most manufacturers were willing to modify their products to comply with the regulations.

Contaminated or Suspect Foods

A wide variety of food products containing foreign material was submitted for examination. Many insects or insect fragments and a substantial number of man-made objects were among the foreign material identified. Perhaps the most unusual of these was a finger stall cooked in the case of a meat pie. A surprisingly large number of complaints involving charred greasy material baked in bread was dealt with, possibly indicating an undesirably high incidence of poorly cleaned bread-making machinery in some bakeries.

The most notable of the samples of deteriorated food submitted to the laboratory was a batch of bottled fruit juice which had begun to explode during storage. The juice was found not to be chemically preserved but had been imperfectly pasteurized. The resulting fermentation in the glass bottles posed a considerable danger to the public. Other large batches of foodstuffs which were found to be unfit for sale due to deterioration included a wholesale lot of ice confection mix, crab meat which was discoloured due to a canning defect, and lamingtons which had begun to ferment.

PESTICIDE RESIDUES IN FOODSTUFFS
(Milligrams/kilogram)

Food Commodity	Pesticides	MRL	Total No. of samples	Total No. with Residue	Total Free of Residue	No. 0-25% MRL	No. 25-50% MRL	No. 50-75% MRL	No. 75-100% MRL	No. Above MRL (Details) mg/kg
Milk and Milk Products	DDT	1.25	298	12	286	12				
	Dieldrin	0.15		6	292	6				
Fish	DDT	1.0	129	20	109	20				
	Dieldrin	NP		47	82					47 (0.001 to .016)
	Heptachlor	NP		3	126					3 (0.001 to 0.06)
Dates	DDT	3	6	5	1	5				
Oranges			5		5					
Oranges(*C)	Diazinon	0.7	1	1		1				
	Diphenyl	110	1	1				1		
Strawberries	Endosulfan	2	5	3	2	3				
	Dieldrin	NP		1	4					1 (0.01)
Mandarins			10		10					
Bean Sprouts			2		2					
Corn (*C)	Monocrotophos	0.5	1	1		1				
Canned Fish	DDT	NC	16	1	15					
	Dieldrin	NC		1	15					
Wine	Chlorothalonil	NC	36	16	20					
Lettuce	DDT	7	5	4	1	4				
	Dieldrin	0.1		1	4	1				
Lettuce (*C)	Endosulfan	2	4	1	3	1				
	Mevinphos	0.25		1	3					1 (20)
Brussel Sprouts	DDT	7	5	3	2	3				
	Dieldrin	NP		2	3					
Bananas			14		14					
Pawpaws			5		5					
Capsicums	DDT	0.5	5	1	5	1				
Apples	DDT	3	10	2	8	2				
Apples (*C)	DDT		8		8					
Grapes			5		5					
Cucumbers			10		10					
Lemons	DDT	0.2	5	2	3	1	1			
	Dieldrin	0.05		2	3		2			
	Parathion	0.5		3	2	3				
Skim Milk Powder			2		2	2				
Button Squash			5		5	5				
Rice			1		1	1				
Tomatoes			1		1	1				
Soft Drinks			1		1	1				
Wheatgerm	Fenitrothion	20	1	1		1				
	TOTAL	596	151	445						

NP—not permitted in this commodity.
NC—not calculable because of an unknown mixture of foods in product (e.g. vegetable oil and fish)
(*C)—sample originated from a public complaint.

A considerable number of food specimens alleged by the consumer to have caused various types of illness were received for examination. In most cases no abnormalities could be detected by chemical examination. In some instances microbial contamination may have been the cause, but it is probable that in many cases the symptoms complained of were not attributable to the suspect food.

Pesticide Residues in Food

The results of analysis for pesticides in various foodstuffs collected from the market place are given in the accompanying table. A wide cross-section of types of foodstuffs was analysed. Major categories examined included imported canned fish and Australian wines. Several samples were received as a result of public complaint about the particular foodstuffs. These are designated with a letter "C" in the table.

The pesticides that are permitted in certain foodstuffs together with their maximum permitted concentration (MRL) are presented in Regulation A14 of the Food Standards Regulations 1983. These MRLs are constantly being revised based on NHMRC and WHO recommendations. As in previous years, difficulties exist with fish and other seafoods. Some of the persistent organochlorine pesticides such as dieldrin, heptachlor and chlordane are not permitted in seafood at any level, although they are almost ubiquitous in the environment in miniscule quantities and are often found in seafood. Thus these foods do not comply with Regulation A14 of the Food Standards Regulations. Representations have been made to the NH&MRC which has the problem under consideration.

The large number of milk sample analyses performed shows that the level of contamination of milk by pesticide residues is extremely low and that there should be no community fears in this regard.

Drugs and Pharmaceuticals

Samples of drugs and pharmaceuticals received fall into two main categories: dangerous drugs for destruction; and drugs and pharmaceuticals for analysis.

Analysis is usually carried out either to determine the correct classification of a product under the Poisons Regulations, or as a result of complaint concerning adverse reactions or contaminants. Some samples are examined in cases of alleged improper storage or supply of scheduled preparations.

One sample of the so-called "Vitamin B-15" was found to contain diisopropylamine dichloroacetate, a restricted drug. Many of the complaints concerned herbal and other health food preparations. In most cases there was no established connections between the adverse symptom and the preparations, and nothing was found which would explain them. One highly-priced sample of "Aloe Vera Juice" was found to consist only of water.

Household and Industrial Chemical Products

A variety of chemical preparations were examined, usually to determine scheduling and labelling requirements, but sometimes as a result of complaints.

One sample of toothpaste was found to be contaminated with a piece of cardboard, and one sample of a hair preparation contained a lead compound, which is prohibited by the Health Act. Four samples of mineral turpentine and kerosene were being sold in wine and soft-drink bottles. This dangerous practice is outlawed under the Poisons Regulations.

Continued testing of pesticidal sprays used by pest control operators showed that of the 65 samples tested, 17 were of too low a strength, eight were too high in strength and four contained the wrong pesticide altogether.

A survey of liquid paints currently on the market showed that 32 of the 328 tested contained significant proportions of lead. These included a range of dyes and inks used in sign printing, which are technically defined as paint under the Health Act. Some were correctly labelled with their lead content stated. Ninety-one samples of paint scrapings from houses were also analysed, and 55 were found to contain high levels of lead. In one case the problem became evident when the family dog was found to be suffering from lead poisoning.

Toys and Other Children's Articles

Toys and children's articles are checked for compliance with the Health Act and relevant Australian Standards.

A total of 485 toys were examined, and of these 73 were found to have lead or other toxic metals in either paint or plastic compounds. This included 16 painted plaster pencil sharpeners, and 18 items of children's jewellery which contain lead in the surface coatings of immitation pearls.

A few toys also had constructional faults which presented hazards in their use. One baby's dummy was found not to comply with the Australian Standard, and one child's flotation aid was considered to be hazardous. A sample of toy pistol caps was examined following a complaint that they had caused a metal cap pistol to disintegrate. They were found to contain an excessive amount of explosive, and it was possible for more than one cap to explode at once. Subsequently, a range of similar caps were tested, but all other types and subsequent samples of the same brand were found to comply with the relevant specifications.

General and Miscellaneous Matters Concerning Safety and Public Health

A wide variety of miscellaneous samples were received from Health inspectors, hospitals, medical practitioners and other Government Departments.

Five samples of crockery were found to contain excessive lead in the glazing, while a further 11 samples of drinking glasses and beer mugs had lead in painted designs on their surfaces. One sample of paper serviettes contained lead in its colouring material.

Twenty-eight suspect dog baits were analysed, revealing arsenic in one, strychnine in one and 1.2 per cent of fenthion-ethyl in another; no poison was detected in the remainder. The herbicide 2,4-D was found in five samples of soil, while arsenic and bromacil were detected in two others. These samples are usually received following allegations of illegal poisoning of plants.

Samples of brown deposits taken from walls of houses were examined following complaints, and found to be bee faeces. The area concerned was down-wind from a sewage treatment plant and residents were concerned that the deposit posed a possible health hazard from the works.

Samples of fluff which were contaminating the operating theatre of a hospital via the air-conditioning system were examined to identify the source and overcome the problem.

Timber samples from a house thought to have been mistakenly treated with arsenic compounds were shown to have insignificant amounts of arsenic present. The house was treated with dieldrin, as claimed by the pesticide operator.

Other miscellaneous samples examined included water, wood chips, sand, sludge and slag, wall and floor coverings, leathers, items of clothing, timber, soap, and a number of powders and liquids for identification.

One legal sample of corn that was suspected of being poisoned was analysed for the Queensland National Parks and Wildlife Service.

A variety of problems relating to suspected occurrence, use or unlawful disposition of pesticides require the expertise of the organic pesticide residue sub-group. Investigations for the Chief Inspector of Drugs and Poisons can be divided into "unofficial" and "official" samples either to pursue suspected breaches of Regulation 0.10 of the Poisons Regulations or to check on the efficiency or veracity of pest control operations.

The work on unofficial samples may be summarized according to the following table.

Nature of Sample	Number of Samples	Number with Pesticides	Details of Samples With Pesticides
Water	9	2	2,4,-D (1 at 0.02 micrograms per litre and 1 with 0.2 mcgm/l)
Plant material	20	4	Hexazione (1 with 0.05 mg/kg), fenuron (3 with range of 0.05 to 1.0 mg/kg)
Carpet	2	2	Dieldrin (0.3 and 0.3 mg/kg)
Timber	3	3	Dieldrin (0.3 to 1.3 mg/kg)

The official samples are detailed below.

Nature of Sample	Number of Samples	Nature of Pesticide found
Water	4	2,4-D and 2,4,5,-T
Water	2	Endosulfan and parathion
Grass and soil	10	Endosulfan and parathion
Dress	1	Endosulfan and parathion
Swabs	8	Endosulfan and parathion
Plant Material	27	2,4-D
	6	2,4-D and 2,4,5,-T
	3	2,4-D and Dinoseb
	3	2,4-D and 2,4-DB
Sheet	1	2,4-D and Dinoseb
Face cloth	1	2,4-D

Two samples of plastic bags intended for bulk use as food containers by a fast food merchandiser were submitted by the Chief Inspector of Foods. The samples were taken as a result of an interstate trucking accident since it was suspected that an insecticidal product had contaminated the bags. Low levels of dieldrin and heptachlor detected on the plastic. The incident demonstrates the necessity for segregated cargo forwarding.

Scientific Evaluation of Occupational Health Problems

Occupational Health Assessments

This year has seen an increased concern and awareness of occupational health by employers, employees and government. A news report on asbestos resulted in an influx of requests for the laboratory's services to identify fibrous material and to measure the number of asbestiform fibres in the atmosphere. Visits to factories, office blocks and public buildings were made on 65 occasions to monitor airborne asbestos by the NHMRC membrane filter method. This resulted in 379 samples for testing. All but a few of the places tested were an order of magnitude below the NHMRC recommended levels. Building materials, consisting of 138 lots involving 305 samples, suspected of being asbestos or containing asbestos, were submitted.

The foundry process is one in which a variety of hazards or potential hazards are present. A great quantity of fumes are generated when molten metal contacts the mould and organic components used in moulding media are degraded by the heat. Carbon monoxide, carbon dioxide, sulphur dioxide, hydrogen, cyanide and formaldehyde are some of the toxic gases that may be released. These, along with the ever-present sand and metals dust, were measured at three foundries during the past 12 months.

The atmospheres of factories involved in the manufacture of polyurethane foams were tested for isocyanates.

Respirable lead measurements were made in battery factories, metal fabricating shops, a firing range and an assay laboratory.

The sterilizing gas, ethylene oxide was monitored at the State Archives and several hospitals.

Air-borne dust, solvent vapours, exhaust gases, carbon dioxide, paints, anaesthetic gases, mercury vapour, metal fumes, ammonia and ozone were also tested for during the year; 59 visits were made for on-site measurements or sample collection.

Sixty samples of paints, epoxies, plastics, cements, woods and inks, submitted by employers, trade unions and individuals, were examined for potential hazards in the workplace.

Three hundred and seventy-eight samples were received through the Chief Inspector of Coal Mines and the State Mining Engineer for respirable quartz analysis. Forty-two samples were examined from intensive welding and concrete finishing procedures at the Wivenhoe Hydroelectric Project.

The Division of Environmental Occupational Health surveys workers who are likely to be exposed to various insecticides and forwards specimens to the laboratory for analysis. Persons included in the surveys are farmers, pesticide formulators and applicators as well as persons involved in pest control programmes for local authorities. This year, 410 samples of blood were analysed for organochlorine pesticides and 20 samples for chlorophenoxyacid herbicides. Seven samples of blood were analysed for methyl bromide. Analysis of urine is used to indicate exposure for certain pesticides with short depuration times. The herbicides 2,4-D and 2,4,5-T fall into this category, and this year, 34 samples of urine were analysed for these compounds.

A summary of the data from these analyses is presented in the accompanying tables.

PESTICIDES IN BLOOD OF OCCUPATIONALLY EXPOSED PERSONS

Pesticide	No. of Samples Analysed	No. of Samples with Residue	Average Conc. ng/g	Conc. Range ng/g
HCB	410	169	2.5	<1 to 44
Dieldrin	410	39	0.6	<1 to 20
DDT plus metabolites	410	286	12.1	<1 to 150
Endosulfan	410	3	<0.01	<1 to 7
Heptachlor epoxide	410	3	<0.01	<1 to 30
2,4-D	20	4	5.6	<5 to 55
2,4,5-T	20	2	0.3	<1 to 4
Methyl bromide (as bromide)	7	7	11	7 to 15
Total number of samples	432			

CHLOROPHENOXYACID HERBICIDES IN URINE OF OCCUPATIONALLY EXPOSED PERSONS

Pesticide	No. of Samples Analysed	No. of Samples with Residue	Average Conc. ng/g	Conc. Range ng/g
2,4-D	34	12	3.0	<1 to 20
2,4,5-T	34	3	1.5	<1 to 20

Safety in Mines

Dust in the roadways of underground coal mines are analysed to determine the percentage of incombustible material present, for compliance with provisions of the Coal Mining Act.

The Coal Mines Inspectorate also submits samples of air-borne dusts to monitor the levels which colliery employees are likely to be breathing. Of the dust samples received from the Northern, Central and Southern coal fields, approximately 300 were also analysed for their free silica content; quartz is the cause of the lung disease silicosis.

The atmospheres of underground coal mines are also checked by the Coal Mines Inspectorate. The levels of component gases hydrogen, carbon monoxide, methane, carbon dioxide, oxygen and nitrogen are determined. A total of 855 samples were received from both the Inspectorate and the Drilling Branch of the Mines Department. No requests for the testing of exhaust emissions of diesel engines associated with the coal industry were received during the year. Knowledge of exhaust emission quality is essential for good practice.

Two polyurethane products intended for use underground were tested to confirm their composition. Advice was given as to the likely products of combustion that would emanate during pyrolysis or burning.

Both water-based and hydrocarbon-based solvents were analysed to assist in determining their suitability for use in coal mines.

The number of the types of tests conducted are summarised in the following table.

Type of Test	1982–83	1983–84
Dusts	1 520	1 254
Gases	922	855
Material suitability tests	. .	19
Diesel exhausts	16	0
Total	2 458	2 128

Forensic Services

The services to the Police Department and to the Coroner are provided mainly by the forensic chemistry and toxicology section of the laboratory. There is a small input of services by other specialized sections.

The services to the police include ancillary breathalyser services, the detection of alcohol and drugs in the blood of motor vehicle drivers and in the blood of persons associated with other offences, the analysis of illicit drugs, and some miscellaneous forensic chemistry analyses.

During the year officers of the section made a small number of field trips associated with police investigations. Fifty-five man-days were required for court appearances.

Breathalyser Services, Alcohol and Other Drugs in Blood

The laboratory provided both analytical and advisory services to the police in regard to breathalyser services. Approximately 3 000 bottles of prepared standard alcohol solution were supplied and a one per cent random sample of reagent ampoules supplied by a manufacturer was analysed to determine compliance with specification. All of the ampoules tested complied with the specification. A number of bottles of prepared standard alcohol solution for use with the alcometer roadside unit were provided.

Specimens of blood were tested under the provisions of the Traffic Act for the presence of alcohol and/or drugs. There has been a small increase in the number of specimens received. The distribution of analytical results for alcohol in blood is shown in the following table which is arranged to highlight the effect of the changed law relating to drink driving.

Alcohol in Blood	July to December 1982	January to June 1983	1983–84
Less than 50 mg/100 ml	. .	61	232
Less than 80 mg/100 ml	118	. .	. .
Between 80–150 mg/100 ml . .	201	. .	. .
Between 50–150 mg/100 ml . .	. .	189	452
Greater than 150 mg/100 ml . .	534	365	845
Total	853	615	1 529

This shows that 55 per cent of the blood specimens received have an alcohol content greater than 150 mg/100 ml.

Blood specimens from persons associated with other offences, such as assault or rape, were analysed for alcohol content, and in some cases for drug content. The results of analysis of these specimens is included in the above table.

The number of specimens analysed for the presence of drugs as well as alcohol was 55. This represented an increase of 25 per cent and could reflect the increased awareness of traffic authorities with regard to driving under the influence of a drug or drugs other than alcohol. Of the specimens tested, drugs were detected in 32 cases.

The following drugs were detected:—

Oxazepam	12
Oxazepam/quinalbarbitone	1
Quinalbarbitone	3
Diazepam	5
Pentobarbitone	2
Oxazepam/Pentobarbitone	3
Nitrazepam	1
Thioridazine	1
Morphine	1
Amitriptyline	1
Phenytoin	1
Methodone	1
Pentobarbitone/primadone/carbomazepine . .	1

The level of drugs detected was usually found to be at or above the therapeutic range and to be accompanied by alcohol. In one case, a barbiturate was determined to be present at a toxic level.

Illicit (Dangerous) Drugs

This category includes items suspected of being dangerous drugs or implements believed to have been used for their administration. Staff members were requested to assist the police in raids on four laboratories suspected of being involved in the illegal manufacture of heroin. The chemists were required to advise on the nature of the chemicals in use; whether the process being used would produce the drug; and to advise in the handling of chemicals or any laboratory process which may have been in use at the time of the raid. The raids resulted in 665 samples being submitted to the laboratory for analysis. Exhibits from these four cases together with samples associated with the normal case work created a very difficult safe storage problem. An additional staff member was temporarily assigned to the drug group to meet the demands of the normal case work.

Unusual items examined included a chain saw, three cane knives, one pair of secateurs, and various knives which may have been used to harvest cannabis plants. These were tested for the presence of tetrahydrocannabinol. One white powder was identified as photographic developer in a cigarette packet which contained 19 cigarettes, six of which had been interfered with: two contained metal rods, two contained grey metallic matter and two contained hexamine tablets.

The table below shows the number of specimens received and the comparison figures for the previous year.

Type	1982–83	1983–84
Cannabis and related products	1 013	1 146
Smoking utensils	1 480	1 658
Opiates and implements related to their use	426	390
Miscellaneous implements	201	289
Other dangerous drugs (including hallucinigers)	159	204
Miscellaneous tablets, powders and ampoules	332	225
Clandestine laboratories	. .	665
Total	3 611	4 577

Because of the case-work load pressure in the forensic drug section, progress has been delayed on the project to determine tetrahydrocannabinol in blood and urine. Tetrahydrocannabinol is the principle active ingredient in cannabis.

Post Mortem Investigations (Forensic Toxicology)

Visceral specimens from 293 post mortem cases were examined for the presence of drugs and poisons. The majority were examined at the request of the Coroners to assist in their determination of cause and circumstance of death. Thirteen cases were received from the Government of Papua New Guinea. This is significantly fewer than the number submitted in the past.

Drugs and poisons which could have had a significant bearing on the cause of death were found in specimens from 119 cases. Alcohol was found frequently in conjunction with drugs and poisons. Toxic levels of drugs were found in 100 cases. The following drugs were found with the number of cases shown in brackets: Barbiturates (27), tricyclic antidepressants (16), paracetamol (14), methadone (12), morphine (from heroin) (13), trichlorethanol (chloralhydrate) (12), dextropropoxyphene (8), chloroquine (4), beta-blockers (3), verapamil (2) digoxin (1) and phenothiazine (2). The most common barbiturate was again pentobarbitone (17 cases).

The number of cases involving poisons was 19. These included carbon monoxide (3) cyanide (1), trichlorfon (1) bromochlorodifluoromethane (1), trichlorethane (1), kerosene (1), L.P.G. (1). High levels of alcohol were found in five cases. Therapeutic levels of drugs were found in 25 cases Benzodiazepines (14), tricyclic and antidepressants (5) and barbiturates (6).

The number of post mortem specimens of blood, urine and other biofluids not associated with visceral specimens, tested was 1 056.

Miscellanous Forensic Chemistry

The Police Department submitted 108 cases for forensic chemistry examination. The Australian Army and the Prisons Department each submitted one case, and the Government of Papua New Guinea submitted two. Two items recovered from the wreck of the HMS Pandora were analysed by the group.

The workload of the group is down slightly on last year, and one chemist assisted the dangerous drugs group for several months. The project to refine the laboratory's knowledge of fibre identification techniques was completed during the year and has increased our capability in this field. A similar project with regard to explosive residue analysis is about to commence.

Of the cases submitted, 27 involved soil and fibre matching, nine involved the identification of poisons, and seven were explosive residue analysis. The suspected poisoning of animals resulted in the submission of specimens in 19 cases. Strychnine was detected in seven cases, warfarin in one, methiocarb in one, parathion in two, and fenthion-ethyl in one. Two samples were received in connection with the suspected poisoning of a worm farm with pesticides. Five samples were received in connection with the suspected poisoning of a crayfish farming enterprise. One sample was analysed for the presence of herbicides resulting from a suspected tree poisoning incident.

Clinical Services

The clinical services offered by the laboratory are now clearly defined following restructuring of the service in November 1982. Clinical drug specimens from the Health Department and the legal services are handled by the analytical toxicology group of the forensic chemistry and toxicology section. In January 1984, the heavy metal assay service previously offered by this group was transferred to the industrial hygiene group of the mining and secondary industries section. The assays relate to the industrial exposure of persons to heavy metals.

A total of 3 311 urine samples were submitted by the Drug Dependence Clinic and were screened for drugs of abuse. There was a 28 per cent increase in the number of specimens submitted.

Drug level assays were made on 95 specimens. These were special assays not yet handled by hospital laboratories. There was a significant decrease in the number of these determinations. The decrease has had the effect of streamlining the work of the group as there were fewer interruptions to the normal work flow associated with urine screening.

The biological specimens most often submitted for trace element analysis are blood and urine. In these two fluids, lead (835) arsenic (289), mercury (117), cadmium (11), thallium (30), aluminium (76) and others (61) are the elements of interest. The laboratory became a contributing member to a United Kingdom quality assurance scheme for testing for cadmium and lead in blood. The laboratory's results fall within the expected confidence limits for this type of analysis.

Specimens of bone are submitted for the determination of its lead content. Hair and nail are supplied as specimens for arsenic determination.

A number of specimens were submitted to test whether their composition was consistent with that of renal calculi. X-ray fluorescence was used to identify the major elemental components as it was requested that the specimens not be altered. One stone was discovered to be a silicate material, quite different from the expected composition of human concretions.

A clinical analytical service is provided for pesticide residue in human fluids forwarded by medical practitioners and pathologists.

Source	1982–83	1983–84
Occupational Health Unit	516	822
Hospitals	310	157
Pathologists Laboratories	208	451
Miscellaneous	95	95
Total	1 129	1 470

Details of samples received and analysed together with information on pesticide types ae included in the accompanying table.

HUMAN FLUIDS FOR ORGANIC PESTICIDE RESIDUE

Pesticide Type	Blood	Urine	Vomitus	Sweat
Organochlorine (OC)	60	. .	. .	. .
Organophosphorus (OP)	23	11	. .	. .
OC and OP	21	. .	. .	. .
Chlorophenoxyacid herbicides	39	33	. .	1
Miscellaneous*	19	8	1	. .
Total	159	50	1	1

* Inclues carbamates, pyrethroids, various herbicides and mixtures of these types.

Thirty-nine water samples were analysed for the renal dialysis unit of the Princess Alexandra Hospital to determine their suitability for use in a dialysis machine.

Natural Resources—Investigations

This segment of the report deals with the assessment of water, ores and other minerals including hydrocarbons.

The major clients serviced by the mining and secondary industries, and the waters sections of the laboratory are the Mines Department, the Queensland Coal Board and the Queensland Water Resources Commission.

Ores, Minerals and Hydrocarbons

The Geological Survey of Queensland and the State Mining Engineer are the two main clients of the laboratory in this category.

Although the first half of the year saw a reduced workload, the usual emphasis was on the metals gold, silver, copper, zinc and arsenic. In the second half of the year there was a large input of silicate rocks, requiring comprehensive analyses for major and minor elements and a large number of trace elements. Hafnium at the parts per million level was a measurement not previously performed at this laboratory. A method utilizing X-ray fluorescence spectroscopy was developed and verified to determine this element. Delays were experienced in completing the complex silicate work because of the increasing unreliability of the X-ray spectrometer. Action is proceeding to replace this 15-year-old instrument.

Staff of this laboratory worked closely with officers of the geological survey to investigate a suitable analytical approach to help evaluate drill core samples taken from potential hydrocarbon source rocks. The method was investigated on a sample from a field for which data was available. The method which relies heavily on column and gas chromatography is now being used on the first drill core samples. Analysis of other hydrocarbon related material such as oil condensate and natural gas continued.

Gold and silver were the elements of predominant interest of prospectors as indicated by the samples forwarded to this laboratory through the Government Assay Office at Cloncurry. The free analytical service for minerals thought to be of commercial value attracted 288 samples over the 12 months.

The Queensland Coal Board required the determination of ash, moisture and gross specific energy on 496 samples of coal. Of these, seven samples required analysis to determine additional chemical properties.

Nature of Sample	1982–83	1983–84
Coal, etc	504	496
Hydrocarbons	65	16
Free silica	150	290
Cements and fly ashes	66	28
Total	2 036	1 597

Water Resources

The Queensland Water Resources Commission submitted an increased number of water samples for standard water analysis. The commission collects these samples from surface and underground sources all over Queensland for examination to ascertain their suitability for domestic use, stock watering, and agricultural purposes.

Several hundred samples of water were examined for the Department of Mines. The majority of these were associated with hydrogeological studies. Details are in the following table.

NATURAL RESOURCES WATER SAMPLES

Survey Samples	No. of Samples		Type of Analysis
	1982–83	1983–84	
Queensland Water Resources Commission—			
Surface Water Branch	1 015	1 712	*S.W.A.
Ground Water Branch	2 458	2 104	*S.W.A.
Queensland Mines Department—			
Geological Survey Division	270	313	Comprehensive†
Mining Division	71	36	*S.W.A.

* S.W.A.—Standard water analysis

† Standard water analysis plus determination of trace anions and cations.

Standard water analysis involves the following 17 determinations, viz. conductivity, pH, colour, turbidity, silica, alkalinity, sodium, potassium, calcium, magnesium, chloride, fluoride, nitrate, sulphate and dissolved iron, manganese and zinc.

Fauna Protection

The removal of certain fauna from the environment is seasonally limited or prohibited by State Legislation. To this end, it is necessary to provide identification of species. In the case of fish fillets, this is best achieved by the special process available in the Food Section of this laboratory. These techniques were especially refined and developed during the national beef export episode when it was necessary to detect the partial substitution of beef with kangaroo meat.

One hundred fillets of fish suspected of being barramundi caught out of season were submitted by the Queensland Boating and Fisheries Patrol. Species identification tests carried out on these samples showed that about half were barramundi and the remainder a mixture of other species.

Monitoring of the Aqueous Environment

Water Quality—Tests for Clean Water

The analytical requirements of the Water Quality Council continue to place a heavy demand on the resources of the section. In all, 6 925 samples were analysed. Details are set out in the following table.

WATER AND BOTTOMS SEDIMENT ANALYSIS FOR WATER QUALITY COUNCIL OF QUEENSLAND

Types of Analysis	Number of Samples	
	1982–83	1983–84
Water—		
BOD5		1 571
pH	*	1 922
Colour	2 582	2 096
Turbidity		2 273
Non-filterable residue		2 306
Organic nitrogen	3 650	3 609
Ammonia nitrogen	3 948	3 660
Nitrate plus nitrite nitrogen	3 934	3 555
Total phosphorus	3 655	3 551
Total filterable phosphorus	..	111
Ortho phosphate	1 133	858
Trace metals	466	332
Surface active agents	138	182
Phenolic compounds	85	55
Oil and grease	502	522
Hydrocarbon material	489	456
Organic carbon	1 158	1 378
Standard water analysis	285	277
Bottom Sediment—		
Oil and grease	108	47
Hydrocarbon material	105	47

* Combined total for 1982–83 more detailed particulars for 1983–84.

During the year the laboratory participated in an international quality assurance programme in water analysis conducted by the U.S. Geological Survey to establish the composition of a standard reference water samples. The results obtained by the laboratory are very satsifactory.

The Water Quality Council monitors many of the State's water bodies to detect areas where pesticide contamination may be a problem. The analyses usually requested are for organochlorine insecticide and PCB's. Some of these samples are also analysed for a large variety of compounds ranging from organophosphorus insecticides and various herbicides to chloroform and other trace organics either singly or in combination. In all, 436 samples were analysed. Sixty-five of these samples arose as a result of a fire in a pesticide warehouse. These samples required the analysis of many and varied pesticides present in a very wide range of concentrations, making for difficult and time-consuming analysis.

One hundred and fifty-five samples of water from various water bodies were received from the Chief Inspector of Environmental Sanitation. Virtually all of these samples were submitted on behalf of local authorities. Most of these samples were not associated with specific instances of pesticide pollution but were the result of programmes to monitor certain water supply areas or sewage effluents and their areas of dispersal, for example, estuaries. Consequently, for most samples, no pesticides were detected. In a few samples, low levels of persistent pesticides (e.g. dieldrin) were detected.

Waste Water, Industrial and Sewerage Effluent

The laboratory continues to provide a waste water analysis service to the Water Quality Council, thus helping to ensure conformation with the Clean Waters Act and Regulations in Queensland.

One thousand and five hundred and fifty-nine samples of waste water were examined for the Water Quality Council and 104 for local authorities. The major type and number of determinations made in the samples for the Water Quality Council are set out in the following table.

MAJOR DETERMINATIONS MADE ON WASTE WATER FOR THE WATER QUALITY COUNCIL OF QUEENSLAND

Determinants	Number of Determinations	
	1982–83	1983–84
B.O.D.5	1 131	955
pH		1 049
Non-filterable residue		1 057
Organic nitrogen	241	148
Ammonia nitrogen		183
Nitrate and nitrite nitrogen		155
Total phosphorus		159
Surfactants	39	72
Oil and grease	79	135
Cyanide	Nil	26
Phenolic compounds	14	20
Trace metals*	168	632

* The following metals were determined: Al, Cr, Mn, Fe, Ni, Cu, As, Zn, Ag, Cd, Hg, Pb, U.

Fifty-eight standard water analyses were also performed.

The determinations made for local authorities were for B.O.D.5, pH and non-filterable residue.

Indicators of Pollution of the Aquatic Environment

The analysis of aquatic organisms is a widely used technique to determine low concentrations of pesticides and metals in this type of ecosystem. This can give information as to the state of pollution in the water body since many pesticides are bioconcentrated by factors of many thousands compared to the concentration in the water body. The analysis of sediments can give information of pesticide levels on a temporal basis as pesticides and other organic compounds tend to concentrate in the sediments over a time period and in fact sediments tend to be a final sink for the more recalcitrant chemicals.

As indicators of pollution, organic pesticide analyses were conducted on 274 samples of sediment for the Water Quality Council, 59 of which were sampled as the result of the fire in the warehouse referred to before. Twenty-seven samples of fish were also received from Water Quality Council mainly in connection with investigation into fish kills, for analysis for organic pesticides. From the same source, 22 samples of fish and other marine species were analysed for low level metal content.

Some of the warehouse fire sediment samples were examined for arsenic and mercury, and the routine analysis of estuarine sediments (307) for heavy metals continued.

Contract Supervision Services

The government contracts section of the laboratory provides a testing and advisory service for State Stores Board and other State Government Authorities engaged in large-scale and special-purpose purchasing. The principal fields of testing for the board are textiles and related products and chemical specialities.

The section is represented on Inter-departmental Commodity Committees sponsored by the State Stores Board. These committees are concerned with laundry detergents and chemicals and floor maintenance polishes and cleansers. An officer of the section is also a member of the Health Department working party investigating the smoke hazards of polyurethane mattresses and related bedding items.

A surface coatings (paints) testing service is provided for the Works Department and to a lesser extent the Housing Commission.

Textiles

In the apparel fabrics field wool/polyester, polyester/cotton, polyester/viscose, and cotton fabrics were examined. These fabrics are used in garments such as police uniforms, prison officers uniforms, railway uniforms, Health Department personnel uniforms, dust coats, overalls, trousers, shorts and sweat shirts.

In the non-apparel fabrics field, blankets, towels and towelling, a wide range of hospital linen, absorbent bed sheets, laundry bags and bandages have been examined.

During the year, considerable emphasis has been placed on the revision and modernization of textile specifications. In some cases this has necessitated investigation into methods for determining properties which were previously outside the scope of the laboratory. These properties include colourfastness and easy care properties including soil release. Work on these matters is progressing.

Cleaning and Maintenance Products

A range of speciality cleansers including toilet bowl cleansers, hospital disinfectants and scouring powders were examined in connection with State Stores contracts.

The "systems" approach, designed to standardize the range of products associated with all facets of maintenance, is used for floor maintenance contracts. For these contracts floor polishing pads are examined to determine abrasion resistance, durability and other performance characteristics of pads for use with high-speed polishing machines.

The floor polish specifications were revised. In conjunction with the State Stores Commodity Committee and the Departments represented on it, considerable time has been spent developing methods for the evaluation of floor polishes. The methods cover not only laboratory-scale tile tests but also larger-scale floor tests. The evaluation of tenders for floor maintenance systems using these methods is in progress.

Mops that had been used for floor cleaning were examined at the request of a country hospital. It was found that the cotton strands in the mops were losing their strength due to excessive use of bleach in the cleaning solutions.

The section has provided both advisory and analytical assistance in the investigation into the problem of laundering stained theatre drapes. This investigation was carried out in conjunction with the Manager, Prince Charles Hospital laundry.

Miscellaneous

Specifications have been prepared for fire retardant polyurethane foam mattresses and tenders are being assessed for these items. This project required the study of the various standard methods for assessing the fire hazards for these items. Parameters such as flammability and smoke generation have to be considered. Apart from laboratory-scale tests, full-scale tests on a made-up bed have been conducted at a metropolitan hospital.

A wide range of miscellaneous products was examined in connection with State Stores contracts. These included baby powder, venetian blind cords for the manufacture of shark nets, toilet paper, paper towels, tea and coffee, cordials and disposable wash cloths.

Pressure sensitive adhesive packaging tapes and marking tapes, and filmic tapes were examined for compliance with relevant Australian Standards. Breaking force, adhesive strength and unwind adhesion were determined using the Instron Tensile Tester. Samples of PVA (polyvinylacetate) emulsion adhesives for wood and contact adhesives were also tested for use by the Education Department.

The nature and number of samples examined during the year are listed in the following table.

Nature of Samples	No. of Samples	
	1982–83	1983–84
Textiles—		
Apparel fabrics	153	261
Non-apparel fabrics	62	214
Cleaning and maintenance products—		
Speciality cleansers	82	71
Laundry detergents	116	22
Swimming pool chemicals	55	Nil
Cleaning equipment	Nil	43
Floor polishes	3	82
Other items	85	146
Total	556	839

Surface Coatings

The laboratory is a Government Co-operating Laboratory participating in the Government Paint Committee (G.P.C.) scheme. Testing of paints is orientated towards the requirements of this scheme and is mainly on decorative coatings. Both the Works Department and the Queensland Housing Commission use the G.P.C. scheme for assessing paints. The laboratory liaises with the G.P.C. secretariat, Melbourne, and regularly dispatches paint test data to them on behalf of the Queensland State Committee.

During the year the staff visited four local G.P.C. accredited laboratories to discuss paint technology and current trends.

The Water Resources Commission submitted three samples of a long life steel protective coating which was to be used for the coating of dam gates. The samples were found to conform to the G.P.C. specifications for this type of product. Advice was given to the Health Department concerning the selection of suitable marking inks for the branding of furniture. Due to a change in sampling policy by the Commission following the introduction of charges by the laboratory, the paint samples from the Queensland Housing Commission decreased from 704 for the previous year to 31 for this year.

The source and nature of samples received are shown in the following table.

Source and Nature of Samples	No. of Samples	
	1982–83	1983–84
Department of Works—		
G.P.C. paints	1 912*	1 535
Tender samples and special paints	44	2
Paint scrapings	3	4
Sub Total (Works)	1 959	1 541
Queensland Housing Commission	704	37
Water Resources Commission	Nil	3
Other Departments	8	5
Total	2 671	1 586

* Includes some linseed oil roof paints.

Services to the Commonwealth Government

Two sections of the laboratory are concerned with the provision of chemical analytical services to Departments of the Commonwealth Government since there is no Australian Government Analytical Laboratory (AGAL) in Queensland. The principle clients are the Department of Primary Industry and the Australian Customs Service which is within the Department of Industry and Commerce. The former client pays for services rendered whilst the charges for customs, excise and associated services are borne by the Department of Science and Technology.

Commonwealth Department of Primary Industries

The agreed work programme for this department consists of—

(i) chemical analysis for export quality standards for dairy products and a limited range of other primary products;
(ii) organic pesticide residues for the National Residue Survey (NRS); and
(iii) mercury and arsenic in egg for the NRS.

(i) Export Commodity Control of Dairy and Non-Dairy Products

The samples are submitted to ensure that they conform to the requirements of the relevant Commonwealth Export Regulations, or the special requirements of importing countries. A small number of samples is submitted through the Export Inspection Service for the Armed Services to ensure that they conform with the A.D.F.S. specifications.

A survey was conducted for the presence of preservatives (sorbic acid, benzoic acid, boric acid, dehydroacetic acid and nitrate/nitrite) in cheddar cheese. Some sorbic acid was detected at very low concentrations and this was attributed to the dusting of plastic bag containers with sorbic acid. Sugar profiles (glucose, fructose, maltose and sucrose) of honey samples are now determined on a routine basis using H.P.L.C..

Although as indicated in the following table, there was a reduction in sample input this year, the number of tests per sample was greater than in previous years.

NUMBER OF SAMPLES RECEIVED FROM COMMONWEALTH DEPARTMENT OF PRIMARY INDUSTRY FOR EXPORT QUALITY CONTROL

Nature of Sample	No. of Samples	
	1982–83	1983–84
Dairy Products—		
Butter, butter concentrate	62	48
Ghee	31	24
Casein	170	133
Cheese	155	100
Cream, sour cream, dessert whips, custard	70	61
Dried full cream milk and lactogen	86	51
Dried skim milk	126	82
Ice-cream, ice-cream mix	54	28
UHT milk and related products	205	148
Yoghurt	35	22
Junex	Nil	12
Sub-total	994	709
Non-dairy products—		
Canned fruits and fruit juices	30	27
Canned vegetables	..	11
Honey	167	145
Margarine	32	32
Pasteurised frozen liquid eggs	514	228
Shrimps (prawns)	1	3
Vegetable oil	3	1
Cordials	Nil	2
Sub-total	747	449
Total	1 741	1 158

(ii) Organic Pesticide Residues

A continuing nation-wide survey of organic pesticides, auxiliaries used in animal production and certain (inorganic) elements in selected foods is arranged by the Pesticides Co-ordinator, Department of Primary Industry, Canberra. This survey designated the National Residue Survey is based on samples collected nation-wide and analysed in government laboratories according to an annual work agreement. The resultant data are centrally collated, processed and distributed to participating laboratories and State Food Authorities.

This laboratory analyses diary products, eggs and honey for organic residues. Details of numbers analysed are in the following table.

Product	1982–83	1983–84
Butter	107	111
Cheese	118	131
Dried milk/lactogen	43	26
Yoghurt	Nil	1
Honey	16	28
Eggs	197	224
Total	481	521

(iii) Mercury and Arsenic in Egg

Mercury compounds were once used as a seed dressing but this use is now prohibited. Organo-arsenicals are used as minor nutrients in poultry feed. The laboratory analysed 22 samples of eggs in a programme to check trace levels of arsenic and mercury.

Australian Customs Service

The Australian Customs Service submits samples for analysis for a variety of reasons. Imported goods of all types are analysed to determine the appropriate tariff classification for assessing import duty.

Glazed crockery is tested for leachable lead and cadmium, and seafood is analysed to determine mercury content. A variety of other goods, such as pencils, artists' paint brushes, erasers and cosmetics are received for the determination of lead and other toxic metals. The Customs (Prohibited Imports) Regulations specify maximum permissable limits for these metals in the various goods mentioned. Other samples are examined for the presence of prohibited drugs or substances, for determination of the Fertilizer Bounty and for excise investigations concerning both licit and illicit beverage and petroleum products. An officer attended court on one case involving a prohibited import.

The results of all work done for the bureau are confidential and no details of particular samples can be given. The following table shows the number and type of samples received during the year.

Reason for Submission	1982–83	1983–84
Tariff	96	252
Import Quality Control—		
(a) Fish and Edible Marine Products	135	175
(b) Glazed Ceramic Tableware	514	627
(c) Pencils, artists brushes, erasers, cosmetics, etc.	26	70
Prevention and detection of Prohibited Substances	33	12
Fertilizer Bounty Investigations	10	12
Excise Investigations	128	60
Total	942	1 208

In other States this work is done by the laboratories of the Australian Government Analyst. This laboratory takes part in collaborative trials and in a quality assurance programme with those laboratories concerning the determination of mercury in fish.

Other Services to the Commonwealth Government

Three samples of unpunched paper tape were examined for the Australian Army to check that they conformed to the relevant Australian Standard.

Thirty-eight (38) samples of water were analysed for Commonwealth Departments of Housing and Construction and of Defence.

In addition, various Commonwealth Authorities (e.g. Telecom, Australian Federal Police, Australia Post, Sales Tax Department) are supplied with services of advice and/or analysis with respect to matters already described under Food, Occupational Health Assessments or Forensic Services earlier in this report.

Advisory Services

In August 1983, two senior technical advisory officers were appointed to the Government Chemical Laboratory to provide an advisory service on chemical and related matters.

A contribution is being made in working groups such as the Queensland Energy Advisory Council study of the State's liquid fuel requirements into the 21st century and the Hazardous Industrial Waste Working Group, a sub-committee of the National Advisory Committee on Chemicals.

Advice on handling and disposing of toxic chemicals has been given to various sections of government. Some examples are the detoxification and disposal of mustard gas residues from an incident on Moreton Island, arresting the corrosion of metal cans containing 1080 poison, and appropriate techniques for the safe disposal of small quantities of abandoned industrial and household chemicals.

An extensive review of the literature on the occurrence of arsenic in food and natural substances used as foods by what may be termed the ''alternative medicine philosophy groups'' was also prepared. This advisory document was required to assist in the preparation of factual advice to deal with political statements in other States concerning the occurrence of arsenic in kelp and its alleged consequences.

Watching briefs are being maintained on emerging technologies for the destruction of wastes including intractable wastes such as PCB's. Advances in conventional treatment and disposal techniques are also being monitored.

The Department of Works occasionally requests advice on other aspects requiring analytical services and chemical expertise. Queries concerning the deterioration of metals and masonry are the most frequently posed, along with those requiring the checking of the compliances of a material with a specification.

Research and Publications

Some of the current year's achievements, progress and developments are:

The detection and determination of coprostan-3-beta-ol in sediments as an indicator of human faecal pollution of water ways was achieved after overcoming considerable technical and resource difficulties.

Work has continued on fish and carcass meat species identification by various electrophoretic techniques. An enzyme staining procedure to differentiate between flesh from sheep, goat and deer was implemented.

The isolations and identification of pure cucurbitacins in certain melon species has progressed to the stage where the researcher has almost completed a paper for publication. This problem arose from the toxicity of some zucchinis being offered for sale and the lack of any recent literature which would lead to a solution of the problem.

As a result of the previous work on the determination of the aromatic content of liquid hydrocarbons (solvents), suggestions concerning a method for aromatic content of the solvent in industrial hand cleansers were made to a committee of the Standards Association of Australia.

Publications by members of Staff were:—

PEASE, W. R. and GOLDING, G. M. Ketamine Abuse. Proceedings Australian Forensic Science Society Vol. 2 No. 5 September 1982;

Review of Dust Conditions in Queensland Coal Mines—Prepared for the Department of Mines;

Epidemiology and Coal Dust Levels in Queensland Coal Mines—workshop paper at 3rd Annual Conference of Australian Institute of Occupational Hygienists;

OLSZOWY, H., SCHOTT, I., ADCOCK, W., KOK. G., ABEYWICKREMA, A., KITCHING, W., DREW, D. Substituted Effects on Tin-199 Chemical Shifts in 4-substituted Bicyclo [2.2.2] Octyl and Bicyclo [2.2.1] heptyl-1-trimethystannanes. J. Am Chem. Soc. (1983), 105, 290.

Overseas Visitors

During this year the laboratory was favoured with the following visitors from scientific establishments overseas:

- Dr Coa Shauren and Dr Junig Wang, Institute of Health, Beijing, Peoples Republic of China;
- Mr J. F. Lovett, Assistant Secretary, Collaborative International Pesticides Analytical Council (CIPAC) (and formerly of the Ministry of Agriculture), Bedford, England; and
- Mr Narua Louai and Mr Anthony Harakuwe, University of Technology, Lae, Papua New Guinea.

Office of the Government Medical Officer

Government Medical Officer: D. G. WILSON, C.B., M.B., B.S., D.P.H., D.M.J. (to 16-3-84)
K. J. MORRISON, M.B., B.S., D.M.J. (acting from 19-3-84)
Assistant Government Medical Officer: R. GREEN, M.B., B.S.,
A. J. METCALFE, M.B., B.S., D.P.H.
K. J. MORRISON, M.B., B.S., D.M.J.

Introduction

The Government Medical Office is located in Herschel Street, Brisbane, and is staffed by the Government Medical Officer, three assistant government medical officers, and nursing and clerical staff.

Dr Douglas Wilson was appointed Government Medical Officer in March 1968. He retired in early 1984 after making a significant contribution to the development of clinical forensic medicine and traffic medicine in this State.

Government Medical Officers provide services in clinical forensic medicine, occupational health and general practice to Government Departments. The Government Medical Office provides these services in the Greater Brisbane Area. Part-time government medical officers are appointed in areas outside Brisbane.

DEPARTMENT OF THE PUBLIC SERVICE BOARD

Applicants for appointment to the State Public Service are medically examined. Standards set in conjunction with the various Departments are implemented. Advice is given in cases where the fitness of an employee to continue in his present capacity is questioned. Where necessary the Government Medical Officer sits on the Public Service Medical Board.

Various medical questions are referred to the Government Medical Office for advice. One of the more important of these over the past year has been the problem of repetition strain injury in data keyboard operators.

STATE SERVICE SUPERANNUATION BOARD

Contributors are examined and recommendations made regarding classification for superannuation benefits. With a number of changes resulting from amendments to the Superannuation Act in February, 1984, a redrafting of the handbook "Guidelines for Examining Medical Officers" has been undertaken and new medical examination forms prepared.

A total of 3 011 examinations for the Public Service and Superannuation Boards were conducted in the past year.

Prisons Department

The Government Medical Officer is Visiting Medical Officer to H.M. Prisons in South-East Queensland and advises the Prisons Department on medical services in all Queensland prisons.

Rockhampton, Townsville and Woodford prisons are visited by part-time prison medical officers. The Government Medical Office, Brisbane, conducts general practice sessions at Wacol and Brisbane prisons.

A comprehensive medical service has been developed at Brisbane prison with regular out-patient sessions conducted by specialists in general surgery, orthopaedic surgery, dermatology, internal medicine and psychiatry. There are also sessional visits by a dentist, an optometrist and a physiotherapist. A registrar in obstetrics and gynaecology attends the female division as required.

A 21-bed hospital at Brisbane Prison is staffed at all times by nursing staff and trained prison officer medical orderlies.

POLICE DEPARTMENT

The Government Medical Officer advises the Commissioner of Police on matters relating to the health and fitness of trainees and serving police officers.

Police applicants who reach the required academic standards are medically examined. High physical standards are required. Examinations were conducted in Brisbane, Townsville, Rockhampton, Cairns, Mackay and Toowoomba. In the past year, 713 applicants were examined at the Government Medical Office, Brisbane. Police cadets and probationary constables are examined periodically during their training to ensure that standards are maintained.

A general practitioner service is available at the Government Medical Office to members of the Police Force. The Government Medical Officer examines officers who become medically unfit to continue their employment and is a member of the Police Medical Board.

The Government Medical Office participates in various police training programmes.

Forensic examinations conducted at the request of police fall mainly into the following categories:—

- Examination of victims of assaults, especially rape and other sexual offences;
- Examination of suspects in cases of crimes of violence;
- Preliminary examination of persons in police custody who are suspected of being mentally incompetent;
- Examination of persons suspected of driving whilst under the influence of alcohol and/or drugs.
- Examination of human remains found under suspicious circumstances;
- Examination of police officers injured in the line of duty.

DEPARTMENT OF WORKS

A State Government Security Protective Service was established during 1983. Medical standards were set and forms for medical examinations drafted in consultation with this Office.

In 1983–84, 198 applicants were examined. These included security officers formerly employed by the Department of Works.

DEPARTMENT OF TRANSPORT

The Government Medical Office advises on medical matters relating to fitness to hold hire driver or private driving licences. Applicants who disclose any condition which may impair their ability to drive are medically examined. In the past year, 136 such examinations were made.

The Government Medical Officer is a member of the Traffic Advisory Committee and is a participant in various seminars organized by the Queensland Road Safety Council.

RAILWAYS DEPARTMENT

The Government Medical Officer is also the Railway Medical Officer, and advises on all medical matters relating to railway employees. Part-time railway medical officers are appointed in areas outside Brisbane. Pre-employment medical examinations are conducted on all applications.

A Health Failure Scheme was introduced in 1978, under which preventative medical screening is conducted on all locomotive drivers and firemen. These examinations include resting E.C.G., and, where necessary, audiograms. They are conducted every five years until age 60 and annually thereafter. During the year, the scheme was extended to include all guards and shunters.

In the past year, 458 examinations were carried out under the Health Failure Scheme and 238 examinations for entry to service, reviews after ill-health, and retirement on ill-health

The Government Medical Officer is the medical officer to the Railway Ambulance Corps.

OTHER SERVICES

The Government Medical Office provides a weekly out-patient session at the Sir Leslie Wilson Youth Training Centre, examines all admissions to the Security Patients' Hospital, Wacol, under sections 31 and 34 of the Mental Health Act, and Admissions by Warrant to a place of safety under section 25 of that Act at the request of police. The Office gives advice to the Crown Law Office on medical matters and government medical officers give expert evidence on various matters particularly in relation to the effects of alcohol and/or drugs.

The Flying Surgeon Service

Longreach—Flying Surgeon: R. G. FINEMORE, B.D.Sc., M.B., B.S., F.R.C.S., F.R.A.C.S.

Roma—Flying Surgeon: A. C. M. PAUL, M.B., B.S., F.R.A.C.S.

As discussed in the introduction to this report, the Queensland Flying Surgeon Service was established in Longreach in 1959 and expanded by the establishment of a base at Roma in 1980.

THE ROMA FLYING SURGEON SERVICE

The Roma service had another very busy year as the following figures for the calendar year 1983 reveal:—

Operations	1 115		
		392	major operations
		723	minor operations
		1 051	routine operations
		64	emergency operations
Consultations	2 926		
Hours flown	368		
Miles flown	53 414		
Flights	168		
Emergency flights	15		

The figures for the period 1st July, 1983, to 30th June, 1984, are presented below.

Operations	1 095		
		370	major operations
		725	minor operations
		1 050	routine operations
		45	emergency operations
Consultations	2 985		
Hours flown	355.5		
Miles flown	51 218		
Flights	164		
Emergency flights	11		

THE LONGREACH FLYING SURGEON SERVICE

The number of patients treated by the Longreach Service, presented below, continued to increase.

Total miles flown	67 073
Total flight hours	366 hours 40 minutes
Total consultations	2 637
Total operations	1 317
Emergency operations	85

The Flying Surgeon Service will continue at this level of activity or higher with the possibility of increased work accruing from the Charleville area in the near future. The coal fields presently visited by the Longreach based flying surgeon will increase the work load for that team over the next couple of years as people in that area become familiar with the service.

Division of Health Promotion

Director: J. BRAGG

The Division took several steps last year to spread its message to more people in order to stimulate community awareness of health issues.

- As well as being responsible for the Department's displays in Brisbane shows, it extended its active participation in provincial shows to a record 18—six more than in the previous year.
- It taped interviews with departmental authorities on various health issues for distribution to radio stations around the State for playback, as well as maintaining an output of printed interviews with them to newspapers.
- It started revision of certain publications in terms aimed at being more acceptable to aboriginal communities.
- It increased its contribution to displays staged by outside organizations, as well as shopping centres.

The Division, which alone among Australian health promotion units spreads activities marking World Health Day over a week, launched the first annual World Health Fair in April, with itself and more than 30 other divisions and organizations staging displays and offering free blood pressure, vision, hearing and other tests.

Its display at the annual Royal National Show featured Superman fighting the smoking habit and was hailed as its most successful. Some of its publications were reproduced by other States, including the Biotonix exercises kit by the A.C.T. health promotion unit. This kit was also featured in several issues of the monthly journal produced by prisoners at Woodford Jail.

The Division's publications were also sought after by overseas organizations. The employee assistance programme at a Detroit firm requested materials used in our stress management programme for staff after reading laudatory comments about them; the Institute of Zoology, Hanover, sought copies of *Animal Toxins* and information on poisonous spiders; and requests also came from Christmas Island and Venezuela, among other places.

In deciding on subjects for some publications, the Division again looked at important health issues not covered at present by other States. One of these was *Anorexia Nervosa*, which was praised by the New South Wales Health Department and other authorities.

HEALTH MAINTENANCE SECTION

This section is committed to heightening awareness and promoting of health issues in the community. Accordingly, it initiated a wide range of preventive and educational promotions in areas such as positive health attitude development, prevention and early detection of disease, achievement of appropriate fitness levels, upgrading of individual nutrition and health practice, research of specific areas, dissemination of information, and reduction of environmental hazard.

HEALTH MAINTENANCE PROMOTIONS

Corporate Fitness and Healthy Lifestyle Programmes

This year saw significant developments in the section's ability to initiate and implement healthy lifestyle programmes in corporate settings. These settings have included a number of Public Service Departments as well as private organizations. A four-stage approach is now offered including awareness and education, needs assessment, fitness enhancement, and evaluation. Evaluations are designed to measure participant health and work performance as well as improvement in fitness.

Sun and Skin Evaluation

An extensive survey concerning public usage of the Division's publications, *Save your skin* and *Sunscreens '83–84*, , was held among pharmacists on the Near North and South Coasts. Results indicated a significant public demand for health information as contained in these pamphlets, and this evaluation has provided valuable insights towards the shaping of future campaigns and publications.

Drink Water Campaign

With local surveys indicating that Gold Coast residents and visitors drank insufficient water to meet individual health needs, the Division launched a "drink water" campaign to coincide with the January holiday period, creating an instant public response towards water as an alternative beverage in restaurants and other settings.

World Health Fair '84

A divisional "first" was the inauguration of World Health Fair '84 which was staged for Health Week, 2nd to 5th April. Held at the Executive Building, Brisbane, it brought together over 30 government and voluntary agencies with similar interests in public health. Apart from live and static displays, and free film and audio-visual presentations, the fair featured a range of extremely popular health tests for blood pressure, blood sugar, eyesight and hearing. A significant number of referrals were made from these tests.

As an additional feature, Radio Station 4EB organized a day's broadcast around on-location live "on-air" interviews with the display representatives. The Division's distinctive contributions were the Superman anti-smoking and Immunisation displays, and computer games, which played their part in sustaining public interest.

Dengue Fever Campaign

This second dengue fever prevention campaign was co-ordinated as before from the Division, in conjunction with the Departmental Vector Control Unit. It again involved Commonwealth, State and Local Authorities, as well as local business, industry and community groups, in an area extending from Rockhampton to Cairns. The campaign, well supported by local media, drew significant support from a public which co-operated extensively with local officers on routine backyard inspections. To achieve maximal impact, publications and products were many and varied, as were the range of outlets for distribution.

Information Dissemination

The section has maintained and furthered its consultancy and educative roles in areas as diverse as mental health, community and industrial nutrition, corporate fitness and healthy lifestyle programmes, preventable illnesses, sun and skin protection, home and occupational safety, concerns of the aged, and dental health. Students attending tertiary institutions, on all study levels, were assisted in course projects and placement experience.

Lectures, talks and seminar programmes were presented to professional and interest-based groups in company with broad sections of the community (e.g. preschool, retirement groups, ethnic organizations) on a range of topics including nutritional practice, headlice eradication, immunization, food handling and hygiene, and sexually transmitted disease.

Publications (pamphlets, fact sheets, booklets, kits, posters) were researched and drafted for editorial completion on topics including immunisation, epilepsy, Downs syndrome, mid-life change, measles, water, anorexia nervosa, headlice, giardia enteritis, grief, ringworm, vegetarian diets, food hygiene, spa pools hygiene, heart rate monitoring and diabetes.

I'm going to Hospital, a new booklet designed expressly for children being admitted for medical or surgical treatment, was well received. This booklet aims to reduce the trauma associated with first admissions, by means of play drawings and puzzles.

SPECIAL PROGRAMMES SECTION

Significant progress was made this year towards the section's goal of establishing self-help education among Aboriginal and Islander populations of Queensland. A large number of Aboriginal and Islander health workers now initiate health education programmes within their own communities.

The major sectional role was active participation in community health worker training, in addition to the equally necessary tasks relating to developmental and consultative support. This role included workshops and practical assistance to health workers in their workplace, and represented an important step towards realization of sectional goals and philosophy.

Three additional processes used by the section in goal attainment were the development and evaluation of resources for relevant health workers, co-facilitation of health camps, and continuation of community liaison/education initiatives. The continuing growth during the year of requests from communities for consultation and assistance provides a measure of the section's expanding influence, in spite of reduced staff levels for half the year.

SPECIAL PROGRAMMES MAJOR OPERATIONS

Resources

New support resources have been developed primarily for specific programmes such as a project workbook for health camps and supplementary information sheets for training courses. One notable achievement here has been the completion of work on an otitis media educational kit, which is now close to release. To aid development of new materials, further evaluation was carried out on existing resources such as a family planning kit.

Training

As a major function, the section's training services were utilized by a range of health workers at varying levels. Both government and voluntary agencies have benefited through co-facilitation of basic and advanced skills workshops, specialized dietary/nutrition service workshops, staff inservice courses, and on-site training. Major commitments have been made to areas as widespread as Mount Isa, Mareeba, Cairns, Townsville, Caboolture, Ipswich and Brisbane.

Consultancy

The consultancy role expanded this year to meet requests from the Aboriginal and Islander Community Health Service (Brisbane), some Aboriginal Health Programme teams, Australian Broadcasting Commission (Schools Film Eduction Branch), Division of Technical and Further Education (Curriculum Branch), the Department of Education Alcohol and Drug Prevention Programmes Unit, schools and pre-schools, the general public, health workers and agencies both interstate and overseas, as well as hospitals such as at Thursday Island.

Staff Development

The appointment of new staff necessitated a commitment to field orientation in which contacts were established with agencies and communities. Other staff members gathered background and skills by participating in Australian Institute of Training and Development workshops and a "bush foods" nutrition conference. Section staff further refined their skills by facilitating in-service training sessions for other divisional staff. This involved the use of video educational techniques as well as the design and provision of instructional sheets/folders.

Field Trips

Field trips provide training and consultancy services, facilitating training in a relevant and practical context. This localizing of services has been accepted by health workers at Thursday Island, Kowanyama, Edward River, Aurukun, Mount Isa, Normanton, Doomadgee, Gununa, Rockhampton and Woorabinda.

Community Liaison/Education

Liaison was maintained with many agencies and individuals during the year. Among these were Aboriginal Hostels, the Aboriginal Health Programme, Aboriginal and Islanders Community Health Services, several units of the Department of Education, welfare agencies such as the 139 Club, Aboriginal and Islander kindercraft course, and this division's community liaison and health education officers.

Additional major programmes undertaken related to women's health and dental education. The Cairns-based liaison officer was primarily responsible for a major diabetes conference involving 300 participants. Objective evaluation of all these programmes substantiated their value and quality of presentation.

HEALTH AND HUMAN RELATIONS SECTION

This section implements the National Drug Education Programme in Queensland, with the aim of assisting "all sections of the community, and in particular, young people, to develop understanding, attitudes and behaviour which will enable them to minimise, and where possible avoid the harmful consequences of drug use".

HEALTH AND HUMAN RELATIONS MAJOR OPERATIONS

Drug Education Seminars for Teachers

Drug education seminars for teachers are now well established as the major strategy in reaching adolescents with drug education appropriate to their needs. The main emphasis of the programme is on helping teachers present students with alternatives to drug use, develop self-esteem and decision-making skills, and generate community support and involvement. Information about drugs is provided, and the programme promotes respect for self and others, and encourages students to develop a sense of responsibility and to set personal goals. Under the programme, two or three teachers from each secondary school undertake a four-day intensive training seminar. These teachers form school teams which in turn introduce the skills and strategies to their school, develop teaching programmes and liaise with community groups.

The seminars are organized and conducted by a joint committee of the alcohol and drug programme unit of the Department of Education and the Division.

Doctors' Advice Against Smoking Pilot Programme

A pilot programme to evaluate the success of doctors' advice in persuading patients to give up smoking was commenced in May. Doctors participating in the programme are taking time to counsel selected patients about the health benefits of giving up smoking, and are following up after one month to support them in their efforts to desist. The Division will survey patients after six months to measure the longer-term success of the programme. If the pilot study outcomes suggest it be worthwhile, kits for doctors outlining the approach and providing appropriate resources will be distributed through continuing education programmes throughout Queensland. The findings of one overseas study indicate that each doctor could anticipate having 25 long-term successes per year.

Lectures on Drug Education

Staff have lectured at Brisbane C.A.E., Qld. Institute of Technology, University of Qld. Dental School, and a public seminar on "New Horizons in Education" for the Royal Australasian College of Dental Surgeons Conference.

Training for Youth Workers

Increasingly, requests for assistance with drug education have been received from community groups with responsibilities to youth (e.g. church youth organizations and service clubs). Three seminars were conducted in Brisbane and the Sunshine Coast to meet this demand.

Consultancy Role

Officers from this section have acted as consultants to a number of organizations developing health-related audiovisual programmes. They have also assisted staff and students at T.A.F.E. Colleges to initiate and implement stress management programmes, and other training programmes in stress management have been conducted with community groups in Brisbane and on the Gold Coast.

Health Camps—Changing Roles

Traditionally, health camps have been run by the Division of Health Promotion for grade 11 high school students, as a means of offering drug education to final year trainee high school teachers. This approach ensured the integration of drug education into school programmes throughout the State. A change in teacher training has closed that avenue to drug educators. The health camp programme that has been piloted successfully with high schools on the Sunshine Coast has taken a new approach. Instead of imposing new demands on teachers to teach drug education skills at a healthy lifestyle week-end camp, camps are now tailored to suit the already existing school programme; for instance, drug education skills are taught on geography camps or physical education camps.

This approach allows the health educator to be more effective by acting as a consultant to individual camps. Through involvement in camps, the Division is accumulating information and experience which are valuable resources for the on-going development of drug education. For example, a "personal health record" is being developed as a means of collecting health behaviour measures from students throughout Queensland.

A final advantage is cost effectiveness: instead of meeting the total costs for each camp, the Division has subsidized a number of school camps and provided consultative advice on their planning and implementation.

COMMUNITY HEALTH EDUCATION

Community Health Education officers continued to provide health education interventions and professional training in teams with other Community Health Services Centre staff at Townsville, Mackay, Rockhampton, Toowoomba, Gold Coast, Ipswich and Inala. Delivery of these educational services may be carried out either individually or as part of other team services that regularly extend to local pre-schools, schools, community organizations and professional groups. In this capacity, the officers act as facilitators in the awareness and prevention of public health problems that can be helped by behaviour changes.

COMMUNITY HEALTH EDUCATION OPERATIONS

Information Services

The Division participated in three major metropolitan displays, 18 major regional displays and over 20 minor displays. It was also consulted by four other departments on the purchase of display equipment.

The 1983 R.N.A. Show featuring a Superman anti-smoking theme was aimed at children from 7–11 years of age. Considerable market research was used in developing a complete package from T.V. commercial to special computer game. Part of the display was the first 70 inch flat video/television screen in Queensland. This allowed the Division to interphase a computer, video and television at the same time. The use of this latest generation equipment continues to keep the Division in the forefront of Public Service display expertise.

Immunization was the theme of the Division's display at the Home Show, and a special computer game was developed to complement it. This display has since been particularly well received by the regional local health authorities at community shows.

The response to the third major Brisbane display, the World Health Fair, was staggering. Some visitors travelled from as far as Toowoomba and the Gold Coast to attend it.

Films Section

A new catalogue was published in late 1983. This has added interest in the already busy lending library. Slight decreases were noted in the borrowing of titles and in audiences, due to the very selective type of programmes that are being conducted in many areas. Borrowers totalled 5 283, films loaned 11 897, number of screenings 11 897 and audience 482 795.

Information on material and preview facilities also were made available to 1 308 persons. These included doctors, nurses, social workers, officers from Children's Services, primary, secondary and tertiary teachers, students, Aboriginal Health workers, military and ambulance personnel, catering and many community health workers. This additional service assists clients in planning and preparing a programme for their special needs.

Many inquiries have been received for video material. Research from overseas and Australia has revealed that the different formats and the cost and life of tape make it prohibitive at this time for a free lending library. To convert and cover the large range of topics in our library would require at least three types of video per title. More work in the video field is likely only if and when the public service and institutions standardize the type of video for general use.

Publications

During the past year the Division has continued to research and develop various methods of producing quality publications quickly and at a realistic cost. Due to the decentralization of Queensland the leaflet or small booklet format continues to be the most economical means of bulk distribution.

ART SECTION

This year the section has produced printed or display material for six divisions of the Health Department, and artwork for 122 health promotion publications and campaigns.

The display section workload continues to increase in proportion to the demand for country shows. The displays—particularly the Superman show, with its associated literature, show bag and computer game—have been well received both by the public and the supporting organizations, and justify the large amount of man-hours involved in their production.

EDITORIAL SECTION

The range of publications handled by this section during the year was extended to include areas which had not been covered previously by the Division. These new publications were either researched and written by this section or edited from drafts supplied by health education officers. In all cases, the assistance of the Division's consultants was sought to ensure all publications were completely accurate and up to date.

As well as revising existing publications, the section edited resource material for health education programmes, publications providing specialized information for the medical profession, and publications for other divisions. An important component of its work was the provision of newspaper, T.V. and radio features and articles, including taped interviews for radio stations on important current health issues, often relating to major programmes conducted by the Division.

AUDIO-VISUAL SECTION

A wide range of recording and photographic services was provided for various divisions of the Health Department. Within this Division, the section contributed to on-going publication needs and played a major part in developing audio-visual components of its displays.

Its work also covered setting up computer health games and audio-visual requirements for hospitals, Intellectual Handicap Services and Community Health Centres.

PAMPHLET DISTRIBUTION

Two big campaigns have required substantial redirection in the production of publications this year. Hence, a smaller number of publications were available for general distribution than in past years, but at the same time large quantities were produced in connection with the special campaigns.

During the past 12 months, 1 578 635 pamphlets were distributed through the following agencies: schools 322 730; hospitals 260 570; departments 176 745; professional 445 890; local authorities 119 550; to public through dispensers 253 150.

A further 882 000 items were produced for the dengue fever campaign and 289 300 items largely for the Superman anti-smoking campaign.

The Division also produced 182 390 booklets; 20 020 posters, 12 400 head injuries cards; 12 000 "On the Go" newsletters; 6 650 Vietnamese language pamphlets; 341 600 specialized publications; 33 000 items for the Minister's Office; plus 128 700 printings (including cards, stickers, pamphlets, charts, flash cards) for outside bodies.

Legislation

The legislation presented to Parliament during the 1983–84 year is listed below.

Homes for the Aged Act 1984

This Act provided for the establishment of homes for the aged and other persons and the management and control of those homes and for other purposes. It also provided for the repeal of *The Charitable Institutions Management Act of* 1885. The Institutions known as Eventide Sandgate, Eventide Rockhampton and Eventide Charters Towers will come under the provisions of this new Act. Clauses 1 and 2 received Royal Assent on 22nd March, 1984. The remaining clauses have not been proclaimed to date.

Transplantation and Anatomy Act Amendment Act 1984

The amendment provided for the inclusion of a new division concerning the donation of regenerative tissue by living children, the making of regulations in respect of donations of tissue by living persons, the omission of subsection 3 of section 37 concerning Schools of Anatomy and the unauthorized selling of tissue. Royal Assent was given to the Bill on 22nd March, 1984. Proclamation was not required.

Health Act Amendment Act 1984

This amendment included a new division in the Act concerning perinatal statistics. Royal Assent was given to Clauses 1 and 2 on 22nd March, 1984. The remaining clauses have not been proclaimed to date.

Medical Act Amendment Act 1984

This Act amended the provisions concerning the tabling of regulations and other subordinate legislation, authorizes the Medical Board to expend certain funds on medical education and research, strengthens the provisions of section 37A concerning disciplinary punishments and includes a new part to deal with medical call services. The Bill received Royal Assent on 22nd March, 1984. Proclamation was not required.

Food Act and Health Act Amendment Act 1984

This Act clarifies certain provisions with regard to offences in section 30, provides a local authority with the necessary power to dispose or otherwise of property seized by it and permits a local authority to sue for the recovery of costs and expenses remaining unpaid. It also amended the regulation making powers of the Act to allow the adoption by reference of standards, methods etc. published by associations and the like. A number of minor machinery amendments were also made to the *Health Act*. The Bill received Royal Assent on 24th March, 1984. Proclamation was not required.

It should be noted that the *Homes for the Aged Act* 1984 and the *Health Act Amendment Act* 1984 have not been proclaimed to date as the Regulations need to be finalized before Proclamation.

Acknowledgments

I have much pleasure in recording my gratitude to all members of the staff for their loyal service, support and conscientious attention to duty.

Acknowledgment is also made to other Government Departments for their co-operation, particularly the Government Statistician and his officers who, as usual, have been of great assistance in preparing the vital statistics section of this report and have supplied other statistical details from time to time throughout the year.

Every assistance has been given by the President, Professor D. Weedon, and members of the Council of the Australian Medical Association, Queensland Branch, and I am indebted to them for the help they have given me.

I would also thank the members of the various expert committees who have given so freely of their time and advice.

I desire to acknowledge the co-operation I have received from the Medical Superintendents of the base hospitals, and would particularly thank Dr E. D. O'Callaghan, Executive Director of Medical Services, Mater Misericordiae Public Hospitals, Dr C. B. Campbell, Medical Superintendent, Royal Brisbane Hospital, Dr P. Grant, Medical Superintendent, Royal Children's Hospital, Dr J. Campbell, Medical Superintendent, Royal Womens's Hospital, Dr J. G. Golledge, Medical Superintendent, Princess Alexandra Hospital, Dr K. P. Kennedy, Medical Superintendent, The Prince Charles Hospital, Dr J. V. Griffin, Medical Superintendent, The Queen Elizabeth II Jubilee Hospital, for the assistance they have given during the year.

P. G. LIVINGSTONE.

APPENDIX 1

VITAL STATISTICS

TABLE 1
ESTIMATED RESIDENT POPULATION OF AUSTRALIAN STATES AND PERCENTAGE OF AUSTRALIAN POPULATION IN EACH STATE, 30th JUNE, 1973–83

Year	New South Wales		Victoria		**Queensland**		South Australia		Western Australia		Tasmania		Australian Capital Territory	Australia
	Number ('000)	Per Cent	Number ('000)	Per Cent	Number ('000)	Per Cent	Number ('000)	Per Cent	Number ('000)	Per Cent	Number ('000)	Per Cent	Number ('000)	Number ('000)
1973	4 841.9	35.9	3 707.7	27.5	**1 952.0**	**14.5**	1 228.5	9.1	1 101.0	8.2	403.1	3.0	173.3	13 504.5
1974	4 894.1	35.7	3 755.7	27.4	**2 008.3**	**14.6**	1 241.5	9.0	1 127.6	8.2	406.2	3.0	186.2	13 722.6
1975	4 932.0	35.5	3 787.4	27.3	**2 051.4**	**14.8**	1 265.3	9.1	1 154.9	8.3	410.1	3.0	199.0	13 893.0
1976	4 959.6	35.3	3 810.4	27.2	**2 092.4**	**14.9**	1 274.1	9.1	1 178.3	8.4	412.3	2.9	207.7	14 033.1
1977	5 001.9	35.2	3 837.4	27.0	**2 129.8**	**15.0**	1 286.1	9.1	1 204.4	8.5	415.0	2.9	213.7	14 192.2
1978	5 053.8	35.2	3 863.8	26.9	**2 172.0**	**15.1**	1 296.2	9.0	1 227.9	8.6	417.6	2.9	218.0	14 359.3
1979	5 111.1	35.2	3 886.4	26.8	**2 214.8**	**15.3**	1 301.1	9.0	1 246.6	8.6	420.8	2.9	220.8	14 515.7
1980	5 171.5	35.2	3 914.3	26.6	**2 265.9**	**15.4**	1 308.4	8.9	1 269.1	8.6	423.6	2.9	224.3	14 695.4
1981	5 234.9	35.1	3 946.9	26.4	**2 345.2**	**15.7**	1 318.8	8.8	1 300.1	8.7	427.2	2.9	227.6	14 923.3
1982	5 307.9	35.0	3 994.1	26.3	**2 419.6**	**15.9**	1 328.7	8.8	1 336.9	8.8	429.8	2.8	231.9	15 178.4
1983	5 360.4	34.9	4 037.6	26.3	**2 471.6**	**16.1**	1 341.5	8.7	1 364.5	8.9	432.6	2.8	236.6	15 378.6

SOURCE: ABS Publication 3219.0 Population Estimates Australia.

TABLE 2
CRUDE BIRTH RATE (PER 1 000 POPULATION)

———	1978	1979	1980	1981	1982	1983
Commonwealth of Australia	15.6	15.4	15.3	15.8	15.8	15.8
Queensland	**15.8**	**15.8**	**15.4**	**16.6**	**16.8**	**17.0**
New South Wales ..	15.4	15.1	15.4	15.6	15.7	15.4
Victoria	15.2	14.9	14.9	15.1	15.0	14.9
South Australia	14.3	14.2	14.1	14.7	14.5	14.8
Western Australia ..	16.7	16.3	16.2	16.9	16.6	17.0
Tasmania	16.3	16.1	15.9	16.8	16.3	16.2
New Zealand	16.4	16.9	16.2	16.3	15.8	†
United Kingdom	12.3	13.1	13.5	13.0	12.8	†
United States of America	15.3	15.8	15.8	15.9	16.0	†
Canada	15.3	15.5	15.4	15.2	15.1	†

† Not available.

TABLE 3
CRUDE DEATH RATE (PER 1 000 POPULATION)

———	1978	1979	1980	1981	1982	1983
Commonwealth of Australia	7.6	7.3	7.4	7.3	7.6	7.2
Queensland	**7.6**	**7.4**	**7.2**	**7.3**	**7.5**	**7.0**
New South Wales ..	8.0	7.6	7.8	7.6	8.0	7.5
Victoria	7.5	7.5	7.5	7.4	7.7	7.3
South Australia	7.5	7.4	7.3	7.4	7.9	7.4
Western Australia ..	6.3	6.4	6.4	6.1	6.1	6.3
Tasmania	8.0	7.6	8.0	7.8	8.0	7.7
New Zealand	7.9	8.2	8.6	8.0	8.1	†
United Kingdom ..	11.9	12.1	11.8	11.8	11.8	†
United States of America	8.8	8.7	8.7	8.7	8.6	†
Canada	7.3	7.1	7.2	7.0	6.9	†

† Not available.

TABLE 4
INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1 000 LIVEBIRTHS)

———	1978	1979	1980	1981	1982	1983
Commonwealth of Australia	12.2	11.4	10.7	10.0	10.3	9.4
Queensland	**12.9**	**10.8**	**11.3**	**10.9**	**10.7**	**10.1**
New South Wales ..	12.9	11.4	10.7	9.9	9.9	9.6
Victoria	10.5	11.3	10.2	9.4	10.7	8.9
South Australia	12.2	9.0	10.1	8.1	11.5	9.8
Western Australia ..	11.2	12.1	11.6	8.8	9.2	7.6
Tasmania	14.3	14.1	11.7	12.0	7.9	10.4
New Zealand	13.8	12.8	13.0	11.8	12.0	†
United Kingdom ..	13.2	12.8	12.0	11.0	†	†
United States of America	13.8	12.9	12.5	11.7	†	†
Canada	12.0	10.9	†	†	†	†

† Not available

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